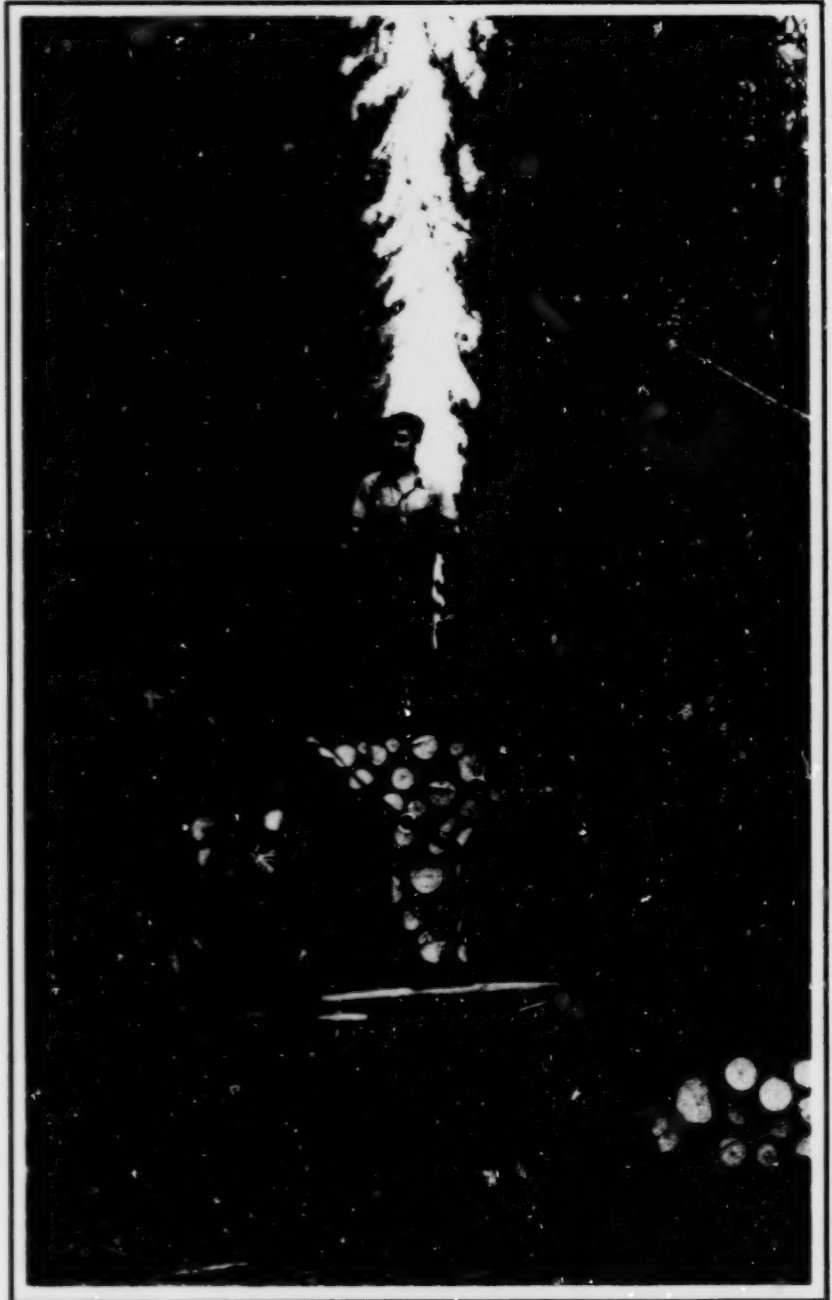


## Red Pine Plantation Growth and Yield Tables



Ministry of  
Natural  
Resources

Hon. Alan W. Pope  
Minister  
W. T. Foster  
Deputy Minister



# Red Pine Plantation Growth and Yield Tables

Alan F. Beckwith and Peter Roebbelen

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Heavily thinned stand in Vivian Forest red pine plantation, York County. This plot was first thinned at 23 years of age and has received 7 thinnings in total up to the present age of 59 years. The basal area has been maintained at about 30 m<sup>2</sup>/ha. The plot presently has an average diameter of 32 cm. A 14 m pole could now be cut from every tree on this plot (405 trees/ha).  
(Left to right: Al Beckwith, Pete Roebbelen, Vic Smith)



Control plot in Vivian Forest red pine plantation, York County. This plot suffered light wind damage at age 34, but has received no thinnings. The plot presently has a basal area of 44 m<sup>2</sup>/ha and an average diameter of 20 cm. At 59 years this stand is still suitable only for pulpwood.  
(Left to right: Vic Smith, Pete Roebbelen, Al Beckwith)

## ABSTRACT

BECKWITH, A.F., P. ROEBBELEN and V.G. SMITH. 1983. Red pine plantation growth and yield tables. Ont. Min. Natur. Resources, Forest Res. Br., Forest Res. Rep. No. 108. 70 p.

*A number of tables relating to the growth and yield of planted red pine (**Pinus resinosa** Ait.) are presented. The main table projects yields five years after various thinning intensities for a range of sites and ages. The five year projection can be repeated up to a stand age of 65, enabling the forest manager to design thinning strategies to meet a number of different objectives. Other tables include present yield, normal yields of unthinned stands, individual tree volume and site index.*

*The tables are a result of over 30 years of remeasurements on permanent sample plots in Ontario (site regions 5E and 6E).*

*The data are presented both in SI and Imperial units.*

BECKWITH, A.F., P. ROEBBELEN and V.G. SMITH. 1983. Tables de rendement et de croissance du pin rouge en plantation. Ont. Min. Natur. Resources, Forest Res. Br., Forest Res. Rep. No. 108. 70 p.

*Un nombre de tables relatives à la croissance et au rendement du pin rouge (**Pinus resinosa** Ait.) en plantation sont présentées. La table principale montre les rendements cinq ans après diverses intensités d'éclaircie pour des intervalles de sites et d'âges. La projection quinquennale peut être répétée jusqu'à un âge de peuplement 65, permettant à l'aménagiste forestier de choisir des stratégies d'éclaircie afin de rencontrer un nombre d'objectifs différents. D'autres tables contiennent le rendement actuel, le rendement normal de peuplements non-éclaircis, le volume d'arbre individuel et l'index de site.*

*Les tables sont un résultat de plus de 30 années de remesurage sur des places-échantillons permanentes en Ontario (régions de site 5E et 6E).*

*Les données sont à la fois présentées en SI et en unités impériales.*



## INTRODUCTION

Widespread planting of red pine (*Pinus resinosa* Ait.) commenced in Ontario during the 1920's. Since then the management of red pine has been a major concern of foresters in southern Ontario. In the 1930's and 1940's several silvicultural study plots and other permanent inventory plots were established in red pine plantations in Ontario. This trend has continued to the present. It is only recently that a sufficient number of the oldest of these plantations has passed the convenient site index age of 50 years. This report brings together data from many of these plots in a more comprehensive treatment of red pine growth and yield than has been possible in the past. It is an extension of Beckwith and McNeice's (1978) growth tables, incorporating significantly more data, both in terms of new plots and in terms of remeasurements of the original plots.

Forest management decision-making requires that future growth and yield be estimated accurately, particularly where there may be a choice of end product. For example, a manager may wish merely to maximize total volume, regardless of stem size, or may wish to produce the greatest number of a specific product such as poles, or be interested in growing trees of the highest possible lumber quality. For these objectives the manager has available a variety of alternative thinning schedules. By knowing the consequence of each alternative the manager can select and realize a specific objective. Practical guidelines become more important as the number of options in a management situation increases. The growth and yield tables presented here can be used to forecast the outcome of various thinning regimes. Thus, foresters can design thinning schedules to meet desired objectives.

The tables refer to 20- to 60-year old plantations with initial spacings of 1.7 m x 1.7 m to 2.3 m x 2.3 m in site regions 5E and 6E (Hills 1961).

There are five types of table, giving information on (i) present yield, (ii) normal yield of unthinned stands, (iii) projected yields after thinning, (iv) individual tree volume, and (v) site index. The tables are given in SI units in the main body of the report and in Imperial units as an appendix. Prior to each table in the body of the report, the characteristics and recommended uses of each are discussed. In a separate appendix, the data source and analysis for each table are presented.

## DESCRIPTION AND USE OF TABLES

### Present Yield (Table 1)

This table gives present stand volume for either thinned or unthinned plantations. The table estimates gross total underbark volume ( $m^3$ ) (including stump and top) of all trees on a per hectare basis. It is to be applied when the stand basal area ( $m^2/ha$ ) and the stand dominant height (m) can be determined in the field.

The following steps are required to estimate the present yield of a plantation as given in Table 1:

1. The stand basal area ( $m^2/ha$ ) must be determined. This is the cumulative cross-sectional area of all tree stems (inclusive of bark) at breast height on a hectare of land. Stand basal area may be measured with a wedge prism (e.g. Basal Area Factor of 2 or 1) or by diameter tallies on fixed sample plots that are 0.04 ha or greater.
2. An estimate of the stand dominant height (mean height (m) of dominant and codominant trees) must be calculated. This may be done by averaging the total heights of a small sample (10-15 trees) of subjectively chosen dominant and codominant trees.
3. Enter Table 1 at the closest basal area and height values and interpolate to determine the gross total underbark volume ( $m^3/ha$ ).

As a rule of thumb one can obtain approximate values from the following equation:

$$\text{Gross total volume} = 0.45 \times \text{Basal area} \times \text{Dominant height}$$

TABLE 1 Present yields for red pine plantations

| Stand<br>dominant<br>height<br>(m) | Gross total volume (m <sup>3</sup> /ha) |     |     |     |     |     |     |     |     |     |     |     |
|------------------------------------|-----------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                                    | Basal area (m <sup>2</sup> /ha)         |     |     |     |     |     |     |     |     |     |     |     |
|                                    | 15                                      | 20  | 25  | 30  | 35  | 40  | 45  | 50  | 55  | 60  | 65  | 70  |
| 8                                  | 51                                      | 70  | 89  | 108 | 127 | 146 | 165 | 184 | 203 | 222 | 241 | 260 |
| 10                                 | 65                                      | 89  | 113 | 136 | 160 | 184 | 208 | 231 | 255 | 279 | 302 | 326 |
| 12                                 | 79                                      | 108 | 136 | 165 | 193 | 222 | 250 | 279 | 307 | 336 | 364 | 393 |
| 14                                 | 94                                      | 127 | 160 | 193 | 227 | 260 | 293 | 326 | 359 | 393 | 426 | 459 |
| 16                                 | 108                                     | 146 | 184 | 222 | 260 | 298 | 336 | 374 | 412 | 450 | 487 | 525 |
| 18                                 | 122                                     | 165 | 208 | 250 | 293 | 336 | 378 | 421 | 464 | 506 | 549 | 592 |
| 20                                 | 136                                     | 184 | 231 | 279 | 326 | 374 | 421 | 468 | 516 | 563 | 611 | 658 |
| 22                                 | 151                                     | 203 | 255 | 307 | 359 | 412 | 464 | 516 | 568 | 620 | 673 | 725 |
| 24                                 | 165                                     | 222 | 279 | 336 | 393 | 450 | 506 | 563 | 620 | 677 | 734 | 791 |
| 26                                 | 179                                     | 241 | 302 | 364 | 426 | 487 | 549 | 611 | 673 | 734 | 796 | 858 |

## Normal Yield for Unthinned Stands (Table 2)

Table 2 is intended for use in red pine plantation stands where the present basal area has not been measured, but the age and site index are known. It may be used to predict the future yield, number of stems, basal area, mean diameter or dominant height of stands that have not been subjected to thinnings and to compare these yields with those obtained after thinning (Table 3). If basal area is known, estimates for unthinned stands may be made by using Table 3.

Stocking levels may be determined by expressing the measured basal area of a thinned or unthinned stand as a percent of the basal area value found in this table.

Growth estimates for 5-year intervals are found by taking differences between successive age cells in Table 2.

The following steps are required to estimate the parameters of a red pine plantation given in Table 2:

1. The age of the stand must be determined. All stand ages presented in this report refer to the number of growing seasons since the plantation was established. The stand age may be obtained from plantation records, or by directly aging several trees within the plantation. This can be accomplished by counting branch internodes along the stem, or by counting annual rings at stump height.
2. An estimate of the site index of the stand must be calculated. This can be achieved by determining the stand dominant height and then using the site index table (Table 5) in this report.
3. Enter Table 2 with the proper age and site index values and interpolate the results from the figures presented.

TABLE 2 Normal yields for unthinned red pine plantations

| Age<br>(years) |                          | Site index <sup>a</sup> |      |      |      |      |      |
|----------------|--------------------------|-------------------------|------|------|------|------|------|
|                |                          | 16                      | 18   | 20   | 22   | 24   | 26   |
| 20             | stems/ha                 | 2776                    | 2817 | 3023 | 3243 | 3402 | 3474 |
|                | ba (m <sup>2</sup> /ha)  | 18.9                    | 24.6 | 28.2 | 33.0 | 37.6 | 40.6 |
|                | mean dbhob (cm)          | 9.3                     | 10.5 | 10.9 | 11.4 | 11.9 | 12.2 |
|                | vol (m <sup>3</sup> /ha) | 54                      | 81   | 105  | 137  | 172  | 202  |
|                | dom. height (m)          | 7                       | 7    | 8    | 9    | 10   | 11   |
| 25             | stems/ha                 | 2580                    | 2569 | 2704 | 2846 | 2929 | 2934 |
|                | ba (m <sup>2</sup> /ha)  | 29.3                    | 33.1 | 35.8 | 39.7 | 43.5 | 46.1 |
|                | mean dbhob (cm)          | 12.0                    | 12.8 | 13.0 | 13.3 | 13.8 | 14.1 |
|                | vol (m <sup>3</sup> /ha) | 109                     | 140  | 169  | 208  | 250  | 288  |
|                | dom. height (m)          | 8                       | 9    | 10   | 11   | 12   | 13   |
| 30             | stems/ha                 | 2430                    | 2382 | 2469 | 2558 | 2592 | 2556 |
|                | ba (m <sup>2</sup> /ha)  | 36.0                    | 39.1 | 41.3 | 44.6 | 48.0 | 50.3 |
|                | mean dbhob (cm)          | 13.7                    | 14.5 | 14.6 | 14.9 | 15.4 | 15.8 |
|                | vol (m <sup>3</sup> /ha) | 162                     | 200  | 235  | 281  | 330  | 376  |
|                | dom. height (m)          | 10                      | 11   | 12   | 14   | 15   | 16   |
| 35             | stems/ha                 | 2310                    | 2235 | 2286 | 2337 | 2337 | 2275 |
|                | ba (m <sup>2</sup> /ha)  | 41.0                    | 43.7 | 45.6 | 48.5 | 51.5 | 53.6 |
|                | mean dbhob (cm)          | 15.0                    | 15.8 | 15.9 | 16.3 | 16.8 | 17.3 |
|                | vol (m <sup>3</sup> /ha) | 216                     | 280  | 303  | 355  | 412  | 466  |
|                | dom. height (m)          | 11                      | 13   | 14   | 16   | 17   | 19   |
| 40             | stems/ha                 | 2211                    | 2115 | 2138 | 2161 | 2137 | 2056 |
|                | ba (m <sup>2</sup> /ha)  | 45.0                    | 47.3 | 48.9 | 51.6 | 54.3 | 56.1 |
|                | mean dbhob (cm)          | 16.1                    | 16.9 | 17.1 | 17.4 | 18.0 | 18.6 |
|                | vol (m <sup>3</sup> /ha) | 271                     | 321  | 370  | 430  | 495  | 555  |
|                | dom. height (m)          | 13                      | 15   | 16   | 18   | 19   | 21   |
| 45             | stems/ha                 | 2127                    | 2014 | 2016 | 2017 | 1975 | 1881 |
|                | ba (m <sup>2</sup> /ha)  | 48.2                    | 50.2 | 51.6 | 54.0 | 56.4 | 58.1 |
|                | mean dbhob (cm)          | 17.0                    | 17.8 | 18.1 | 18.5 | 19.1 | 19.8 |
|                | vol (m <sup>3</sup> /ha) | 326                     | 382  | 438  | 504  | 576  | 643  |
|                | dom. height (m)          | 14                      | 16   | 18   | 20   | 22   | 24   |
| 50             | stems/ha                 | 2055                    | 1928 | 1913 | 1897 | 1840 | 1737 |
|                | ba (m <sup>2</sup> /ha)  | 50.8                    | 52.6 | 53.7 | 55.8 | 58.0 | 59.5 |
|                | mean dbhob (cm)          | 17.8                    | 18.6 | 18.9 | 19.4 | 20.0 | 20.9 |
|                | vol (m <sup>3</sup> /ha) | 380                     | 443  | 504  | 577  | 655  | 728  |
|                | dom. height (m)          | 16                      | 18   | 20   | 22   | 24   | 26   |
| 55             | stems/ha                 | 1992                    | 1854 | 1824 | 1794 | 1726 | 1616 |
|                | ba (m <sup>2</sup> /ha)  | 53.0                    | 54.4 | 55.3 | 57.1 | 59.1 | 60.3 |
|                | mean dbhob (cm)          | 18.4                    | 19.3 | 19.7 | 20.1 | 20.9 | 21.8 |
|                | vol (m <sup>3</sup> /ha) | 433                     | 502  | 568  | 646  | 730  | 808  |
|                | dom. height (m)          | 17                      | 20   | 22   | 24   | 26   | 28   |

<sup>a</sup>stand dominant height (m) at 50 years



First row thinning in Vivian Forest red pine plantation, York County. (W. Masters, 1960)

## Projected Yield for Thinned and Unthinned Stands (Table 3)

Table 3 is actually a series of tables which estimate gross total volume ( $\text{m}^3/\text{ha}$ ) and basal area ( $\text{m}^2/\text{ha}$ ) growth and yield for a range of thinning levels (including 0% thinning) 5 years after the treatment has occurred.

The tables may be used to evaluate the yields from various thinning regimes for a plantation up to the age of 65 years. They may also be used to compare the yields resulting from thinning operations to yields obtained in unthinned stands.

Table 3 can be used to predict the growth and yield of unthinned stands, or of stands not thinned after an initial thinning, by using the 0% thinning column. The figures in the normal yield table for unthinned stands (Table 2) correspond to the heavier stocked figures of the 0% thinning column. It is recommended that Table 3 be used when the basal area is known.

To use the projected yield table, the following steps are required:

1. Determine the site index and age for the stand.
2. Determine the basal area ( $\text{m}^2/\text{ha}$ ) or volume ( $\text{m}^3/\text{ha}$ ) in the stand.
3. Establish the percentage of the basal area or volume that is to be removed in the thinning.
4. Locate the appropriate table for the site index and age of the stand. This information is given at the top of each table.
5. Enter the table for the desired thinning level and initial basal area or volume. The result is given in the form of a 5-year growth estimate for volume and basal area, as well as an estimate of the volume and basal area yield at the end of the 5-year period.
6. Subsequent 5-year growth and yield estimates may be obtained by turning to the next table in the age series. This table is entered using the basal area or volume figure obtained in step 5. This process may be repeated up to a stand age of 65 years.

TABLE 3 Projected five-year growth and yield for thinned and unthinned red pine plantations

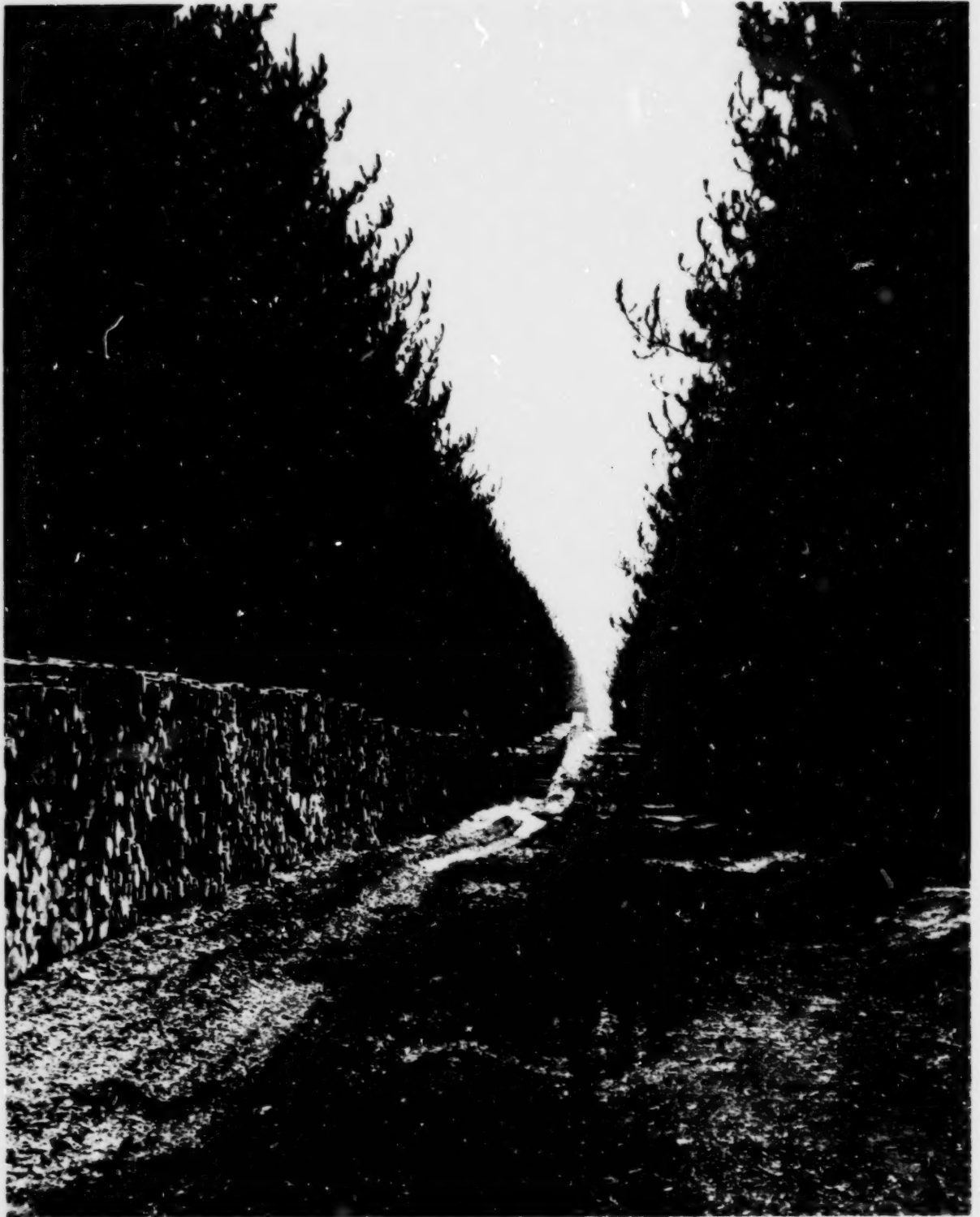
| Percent thinning            |              |             |              |                |              |             |              |                       |              |             |              |                          |              |             |              |             |     |
|-----------------------------|--------------|-------------|--------------|----------------|--------------|-------------|--------------|-----------------------|--------------|-------------|--------------|--------------------------|--------------|-------------|--------------|-------------|-----|
| Stand<br>before<br>thinning | 0            |             | 20           |                | 25           |             | 30           |                       | 33           |             | 40           |                          | 50           |             | 60           |             |     |
|                             | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd    | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd           | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd              | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |     |
| SITE INDEX 16               |              |             |              | PRESENT AGE 20 |              |             |              | PRESENT HEIGHT 6.6 M  |              |             |              | HEIGHT IN 5 YEARS 8.3 M  |              |             |              |             |     |
| VOL (m³/ha)                 | 35           | 62          | 97           | 66             | 93           | 67          | 92           | 68                    | 91           | 69          | 90           | 71                       | 89           | 73          | 88           | 76          | 86  |
| BA (m²/ha)                  | 12           | 13.5        | 26           | 15.0           | 25           | 15.4        | 25           | 15.8                  | 24           | 16.0        | 24           | 16.6                     | 24           | 17.5        | 24           | 18.5        | 23  |
| VOL (m³/ha)                 | 70           | 54          | 124          | 57             | 111          | 58          | 109          | 58                    | 106          | 59          | 104          | 61                       | 100          | 64          | 96           | 67          | 92  |
| BA (m²/ha)                  | 24           | 9.3         | 33           | 10.8           | 30           | 11.3        | 29           | 11.8                  | 28           | 12.1        | 28           | 12.8                     | 27           | 14.0        | 26           | 15.4        | 25  |
| VOL (m³/ha)                 | 105          | 54          | 159          | 53             | 136          | 54          | 131          | 54                    | 126          | 55          | 123          | 56                       | 116          | 58          | 107          | 61          | 100 |
| BA (m²/ha)                  | 35           | 6.9         | 42           | 8.3            | 36           | 8.7         | 35           | 9.2                   | 33           | 9.5         | 33           | 10.2                     | 31           | 11.5        | 29           | 13.0        | 27  |
| SITE INDEX 16               |              |             |              | PRESENT AGE 25 |              |             |              | PRESENT HEIGHT 8.3 M  |              |             |              | HEIGHT IN 5 YEARS 9.8 M  |              |             |              |             |     |
| VOL (m³/ha)                 | 70           | 59          | 129          | 63             | 118          | 64          | 115          | 66                    | 113          | 66          | 111          | 69                       | 108          | 72          | 104          | 76          | 101 |
| BA (m²/ha)                  | 19           | 9.6         | 29           | 11.1           | 26           | 11.5        | 26           | 11.9                  | 25           | 12.2        | 25           | 12.9                     | 24           | 14.0        | 23           | 15.2        | 22  |
| VOL (m³/ha)                 | 105          | 55          | 160          | 57             | 140          | 58          | 135          | 59                    | 131          | 60          | 128          | 61                       | 122          | 65          | 114          | 69          | 108 |
| BA (m²/ha)                  | 28           | 7.3         | 35           | 8.7            | 31           | 9.1         | 30           | 9.5                   | 29           | 9.8         | 28           | 10.5                     | 27           | 11.7        | 25           | 13.1        | 24  |
| VOL (m³/ha)                 | 140          | 55          | 195          | 55             | 166          | 55          | 159          | 56                    | 152          | 56          | 148          | 57                       | 139          | 60          | 127          | 64          | 116 |
| BA (m²/ha)                  | 37           | 5.8         | 43           | 7.0            | 36           | 7.4         | 35           | 7.8                   | 33           | 8.1         | 33           | 8.7                      | 31           | 9.9         | 28           | 11.3        | 26  |
| SITE INDEX 16               |              |             |              | PRESENT AGE 30 |              |             |              | PRESENT HEIGHT 9.8 M  |              |             |              | HEIGHT IN 5 YEARS 11.4 M |              |             |              |             |     |
| VOL (m³/ha)                 | 105          | 58          | 163          | 61             | 144          | 62          | 140          | 64                    | 136          | 65          | 133          | 67                       | 128          | 71          | 121          | 76          | 115 |
| BA (m²/ha)                  | 23           | 7.5         | 31           | 8.8            | 27           | 9.2         | 26           | 9.6                   | 26           | 9.9         | 25           | 10.5                     | 24           | 11.6        | 23           | 12.9        | 22  |
| VOL (m³/ha)                 | 140          | 55          | 195          | 57             | 168          | 58          | 161          | 59                    | 155          | 60          | 151          | 62                       | 143          | 65          | 132          | 70          | 123 |
| BA (m²/ha)                  | 31           | 6.0         | 37           | 7.2            | 32           | 7.6         | 30           | 8.0                   | 29           | 8.2         | 29           | 8.9                      | 27           | 10.0        | 25           | 11.3        | 23  |
| VOL (m³/ha)                 | 175          | 55          | 230          | 55             | 194          | 56          | 185          | 56                    | 177          | 57          | 172          | 58                       | 161          | 61          | 145          | 65          | 132 |
| BA (m²/ha)                  | 38           | 5.0         | 43           | 6.0            | 37           | 6.4         | 35           | 6.7                   | 33           | 7.0         | 32           | 7.6                      | 30           | 8.7         | 28           | 10.0        | 25  |
| VOL (m³/ha)                 | 210          | 57          | 267          | 55             | 222          | 55          | 211          | 55                    | 200          | 55          | 194          | 56                       | 180          | 58          | 160          | 62          | 142 |
| BA (m²/ha)                  | 46           | 4.3         | 50           | 5.2            | 42           | 5.5         | 40           | 5.8                   | 38           | 6.1         | 37           | 6.6                      | 34           | 7.6         | 30           | 9.0         | 27  |
| SITE INDEX 16               |              |             |              | PRESENT AGE 35 |              |             |              | PRESENT HEIGHT 11.4 M |              |             |              | HEIGHT IN 5 YEARS 13.0 M |              |             |              |             |     |
| VOL (m³/ha)                 | 140          | 57          | 197          | 60             | 171          | 61          | 165          | 62                    | 159          | 63          | 155          | 66                       | 147          | 70          | 137          | 76          | 128 |
| BA (m²/ha)                  | 26           | 6.1         | 33           | 7.2            | 28           | 7.6         | 27           | 8.0                   | 26           | 8.2         | 26           | 8.8                      | 25           | 9.9         | 23           | 11.1        | 21  |
| VOL (m³/ha)                 | 175          | 55          | 230          | 57             | 196          | 58          | 187          | 58                    | 179          | 59          | 174          | 61                       | 164          | 65          | 150          | 70          | 137 |
| BA (m²/ha)                  | 33           | 5.1         | 38           | 6.1            | 32           | 6.4         | 31           | 6.8                   | 30           | 7.0         | 29           | 7.6                      | 27           | 8.7         | 25           | 9.9         | 23  |
| VOL (m³/ha)                 | 210          | 55          | 265          | 55             | 222          | 56          | 212          | 56                    | 202          | 57          | 195          | 58                       | 182          | 61          | 163          | 66          | 146 |
| BA (m²/ha)                  | 39           | 4.3         | 44           | 5.3            | 37           | 5.6         | 35           | 5.9                   | 33           | 6.1         | 32           | 6.7                      | 30           | 7.7         | 27           | 8.9         | 24  |
| VOL (m³/ha)                 | 245          | 57          | 302          | 55             | 250          | 55          | 237          | 55                    | 225          | 56          | 218          | 56                       | 201          | 59          | 178          | 63          | 157 |
| BA (m²/ha)                  | 46           | 3.8         | 50           | 4.6            | 41           | 4.9         | 39           | 5.2                   | 37           | 5.4         | 36           | 5.9                      | 33           | 6.8         | 30           | 8.1         | 26  |
| VOL (m³/ha)                 | 280          | 59          | 339          | 56             | 279          | 55          | 264          | 55                    | 249          | 55          | 241          | 55                       | 221          | 57          | 194          | 60          | 169 |
| BA (m²/ha)                  | 52           | 3.3         | 56           | 4.1            | 46           | 4.4         | 43           | 4.6                   | 41           | 4.8         | 40           | 5.3                      | 36           | 6.2         | 32           | 7.3         | 28  |

TABLE 3 (continued)

| Percent thinning |                             |                |             |              |             |              |             |                       |             |              |             |                          |             |              |             |              |             |
|------------------|-----------------------------|----------------|-------------|--------------|-------------|--------------|-------------|-----------------------|-------------|--------------|-------------|--------------------------|-------------|--------------|-------------|--------------|-------------|
|                  | Stand<br>before<br>thinning | 0              |             | 20           |             | 25           |             | 30                    |             | 33           |             | 40                       |             | 50           |             | 60           |             |
|                  |                             | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth          | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth             | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
| SITE INDEX 16    |                             | PRESENT AGE 40 |             |              |             |              |             | PRESENT HEIGHT 13.0 M |             |              |             | HEIGHT IN 5 YEARS 14.5 M |             |              |             |              |             |
| VOL (m³/ha)      | 140                         | 58             | 198         | 62           | 173         | 64           | 167         | 65                    | 162         | 66           | 158         | 69                       | 151         | 74           | 141         | 81           | 133         |
| BA (m²/ha)       | 23                          | 6.0            | 29          | 7.1          | 26          | 7.5          | 25          | 7.8                   | 24          | 8.1          | 23          | 8.7                      | 22          | 9.6          | 21          | 10.8         | 20          |
| VOL (m³/ha)      | 175                         | 55             | 230         | 58           | 197         | 59           | 189         | 61                    | 181         | 61           | 177         | 64                       | 167         | 68           | 153         | 75           | 141         |
| BA (m²/ha)       | 29                          | 5.0            | 34          | 6.0          | 29          | 6.4          | 28          | 6.7                   | 27          | 6.9          | 26          | 7.5                      | 25          | 8.5          | 23          | 9.7          | 21          |
| VOL (m³/ha)      | 210                         | 55             | 265         | 56           | 223         | 57           | 213         | 58                    | 203         | 58           | 197         | 60                       | 184         | 64           | 166         | 70           | 150         |
| BA (m²/ha)       | 35                          | 4.3            | 39          | 5.2          | 33          | 5.5          | 31          | 5.8                   | 30          | 6.1          | 29          | 6.6                      | 27          | 7.5          | 25          | 8.7          | 22          |
| VOL (m³/ha)      | 245                         | 55             | 300         | 55           | 250         | 55           | 237         | 56                    | 225         | 56           | 218         | 58                       | 202         | 61           | 180         | 66           | 160         |
| BA (m²/ha)       | 40                          | 3.8            | 44          | 4.6          | 37          | 4.9          | 35          | 5.2                   | 33          | 5.4          | 32          | 5.9                      | 30          | 6.8          | 27          | 7.9          | 24          |
| VOL (m³/ha)      | 280                         | 56             | 336         | 55           | 277         | 55           | 263         | 55                    | 249         | 55           | 241         | 56                       | 222         | 58           | 195         | 63           | 171         |
| BA (m²/ha)       | 46                          | 3.3            | 49          | 4.1          | 41          | 4.3          | 39          | 4.6                   | 37          | 4.8          | 35          | 5.3                      | 33          | 6.1          | 29          | 7.2          | 25          |
| VOL (m³/ha)      | 315                         | 58             | 373         | 55           | 306         | 55           | 290         | 55                    | 273         | 55           | 264         | 55                       | 242         | 57           | 211         | 60           | 183         |
| BA (m²/ha)       | 52                          | 3.0            | 55          | 3.7          | 45          | 3.9          | 43          | 4.2                   | 40          | 4.3          | 39          | 4.8                      | 36          | 5.6          | 31          | 6.6          | 27          |
| SITE INDEX 16    |                             | PRESENT AGE 45 |             |              |             |              |             | PRESENT HEIGHT 14.5 M |             |              |             | HEIGHT IN 5 YEARS 16.0 M |             |              |             |              |             |
| VOL (m³/ha)      | 175                         | 55             | 230         | 59           | 198         | 60           | 190         | 62                    | 183         | 63           | 178         | 66                       | 168         | 71           | 155         | 77           | 144         |
| BA (m²/ha)       | 26                          | 4.9            | 31          | 5.8          | 26          | 6.1          | 25          | 6.5                   | 24          | 6.7          | 24          | 7.2                      | 23          | 8.1          | 21          | 9.3          | 19          |
| VOL (m³/ha)      | 210                         | 54             | 264         | 56           | 223         | 57           | 213         | 58                    | 203         | 59           | 198         | 61                       | 185         | 66           | 168         | 72           | 152         |
| BA (m²/ha)       | 31                          | 4.2            | 35          | 5.1          | 30          | 5.3          | 28          | 5.7                   | 27          | 5.9          | 26          | 6.4                      | 25          | 7.3          | 22          | 8.4          | 20          |
| VOL (m³/ha)      | 245                         | 53             | 298         | 54           | 249         | 55           | 237         | 56                    | 225         | 56           | 219         | 58                       | 203         | 62           | 182         | 68           | 162         |
| BA (m²/ha)       | 36                          | 3.7            | 40          | 4.5          | 33          | 4.7          | 32          | 5.0                   | 30          | 5.2          | 29          | 5.7                      | 27          | 6.5          | 24          | 7.6          | 22          |
| VOL (m³/ha)      | 280                         | 54             | 334         | 53           | 276         | 54           | 262         | 54                    | 248         | 55           | 240         | 56                       | 222         | 59           | 196         | 64           | 173         |
| BA (m²/ha)       | 41                          | 3.2            | 44          | 4.0          | 37          | 4.2          | 35          | 4.5                   | 33          | 4.6          | 32          | 5.1                      | 30          | 5.9          | 26          | 7.0          | 23          |
| VOL (m³/ha)      | 315                         | 55             | 370         | 53           | 304         | 53           | 288         | 54                    | 272         | 54           | 263         | 55                       | 241         | 57           | 212         | 62           | 184         |
| BA (m²/ha)       | 46                          | 2.9            | 49          | 3.6          | 40          | 3.8          | 38          | 4.0                   | 36          | 4.2          | 35          | 4.6                      | 32          | 5.4          | 28          | 6.4          | 25          |
| VOL (m³/ha)      | 350                         | 57             | 407         | 54           | 333         | 54           | 315         | 53                    | 297         | 53           | 286         | 54                       | 261         | 56           | 228         | 59           | 196         |
| BA (m²/ha)       | 51                          | 2.6            | 54          | 3.3          | 44          | 3.5          | 42          | 3.7                   | 39          | 3.8          | 38          | 4.2                      | 35          | 4.9          | 30          | 5.9          | 26          |
| VOL (m³/ha)      | 385                         | 59             | 444         | 55           | 361         | 54           | 341         | 54                    | 321         | 53           | 309         | 53                       | 282         | 55           | 244         | 58           | 208         |
| BA (m²/ha)       | 56                          | 2.4            | 59          | 3.0          | 48          | 3.2          | 45          | 3.4                   | 43          | 3.5          | 41          | 3.9                      | 38          | 4.6          | 32          | 5.5          | 28          |
| SITE INDEX 16    |                             | PRESENT AGE 50 |             |              |             |              |             | PRESENT HEIGHT 16.0 M |             |              |             | HEIGHT IN 5 YEARS 17.5 M |             |              |             |              |             |
| VOL (m³/ha)      | 210                         | 52             | 262         | 55           | 222         | 56           | 212         | 58                    | 203         | 59           | 197         | 61                       | 185         | 66           | 168         | 73           | 153         |
| BA (m²/ha)       | 28                          | 3.9            | 32          | 4.8          | 27          | 5.0          | 26          | 5.3                   | 25          | 5.5          | 24          | 6.0                      | 23          | 6.8          | 21          | 7.8          | 19          |
| VOL (m³/ha)      | 245                         | 51             | 296         | 50           | 248         | 54           | 236         | 55                    | 225         | 56           | 218         | 58                       | 202         | 62           | 181         | 68           | 162         |
| BA (m²/ha)       | 33                          | 3.4            | 36          | 4.2          | 30          | 4.4          | 29          | 4.7                   | 27          | 4.9          | 27          | 5.3                      | 25          | 6.1          | 22          | 7.1          | 20          |
| VOL (m³/ha)      | 280                         | 51             | 331         | 52           | 275         | 52           | 261         | 53                    | 247         | 54           | 239         | 55                       | 221         | 59           | 196         | 64           | 173         |
| BA (m²/ha)       | 37                          | 3.1            | 40          | 3.7          | 33          | 4.0          | 32          | 4.2                   | 30          | 4.4          | 29          | 4.8                      | 27          | 5.6          | 24          | 6.5          | 21          |
| VOL (m³/ha)      | 315                         | 52             | 367         | 51           | 302         | 52           | 286         | 52                    | 271         | 52           | 261         | 54                       | 240         | 56           | 211         | 61           | 184         |
| BA (m²/ha)       | 42                          | 2.7            | 45          | 3.4          | 37          | 3.6          | 35          | 3.8                   | 33          | 4.0          | 32          | 4.4                      | 29          | 5.1          | 26          | 6.0          | 22          |
| VOL (m³/ha)      | 350                         | 53             | 403         | 51           | 330         | 51           | 312         | 51                    | 295         | 52           | 284         | 52                       | 260         | 55           | 227         | 59           | 195         |
| BA (m²/ha)       | 46                          | 2.5            | 49          | 3.1          | 40          | 3.3          | 38          | 3.5                   | 36          | 3.6          | 35          | 4.0                      | 32          | 4.7          | 28          | 5.6          | 24          |
| VOL (m³/ha)      | 385                         | 55             | 440         | 52           | 359         | 52           | 339         | 51                    | 319         | 51           | 307         | 52                       | 280         | 53           | 243         | 57           | 207         |
| BA (m²/ha)       | 51                          | 2.3            | 53          | 2.8          | 44          | 3.0          | 41          | 3.2                   | 39          | 3.3          | 37          | 3.7                      | 34          | 4.3          | 30          | 5.2          | 25          |
| VOL (m³/ha)      | 420                         | 56             | 476         | 53           | 388         | 52           | 366         | 52                    | 344         | 51           | 331         | 51                       | 301         | 52           | 253         | 55           | 220         |
| BA (m²/ha)       | 56                          | 2.1            | 58          | 2.6          | 47          | 2.8          | 44          | 2.9                   | 42          | 3.1          | 40          | 3.4                      | 37          | 4.0          | 32          | 4.8          | 27          |

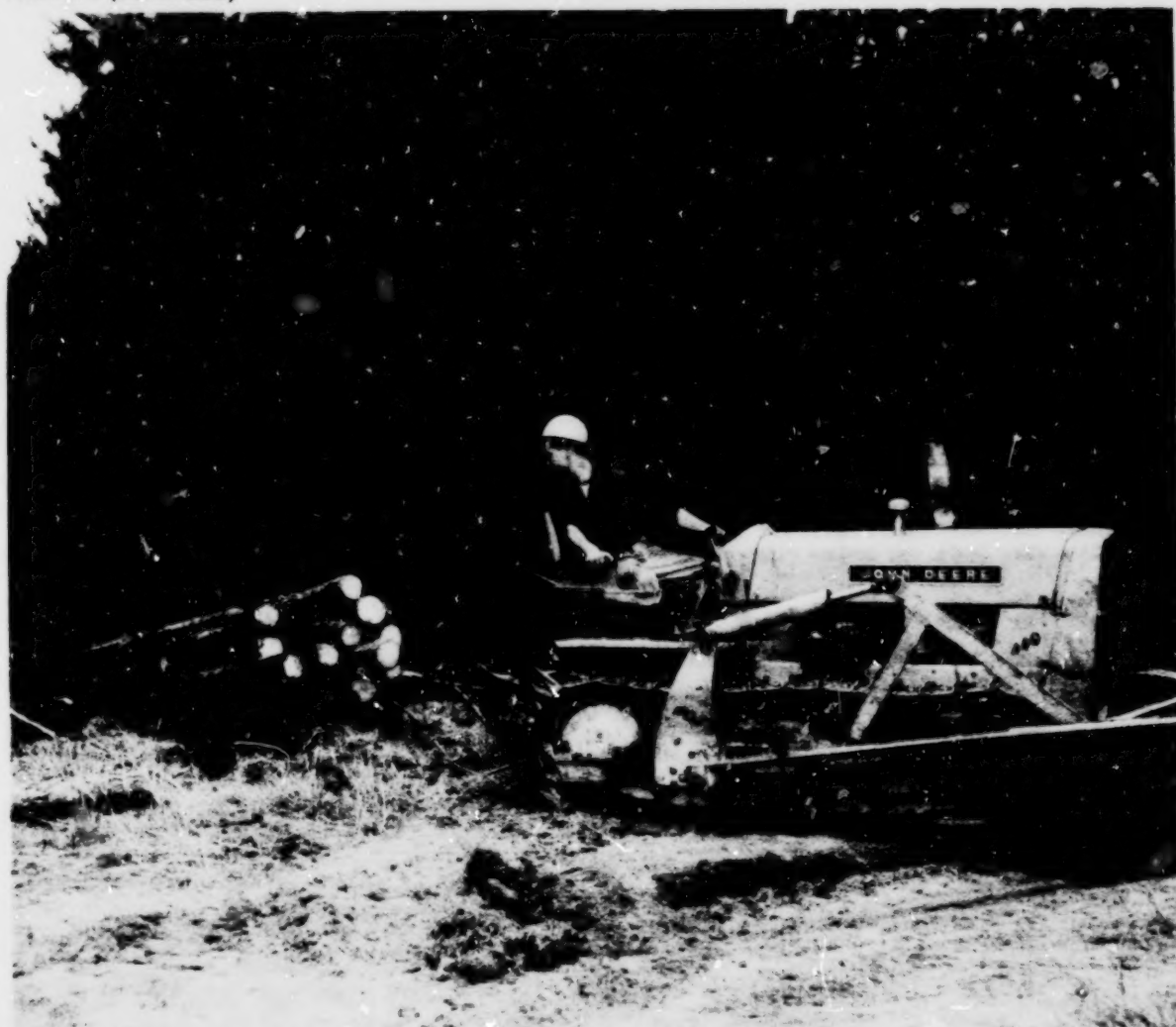
TABLE 3 (continued)

| Stand<br>before<br>thinning | Percent thinning |             |              |             |              |             |                |             |              |             |                   |             |              |             |              |             |
|-----------------------------|------------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------------|-------------|
|                             | 0                |             | 20           |             | 25           |             | 30             |             | 33           |             | 40                |             | 50           |             | 60           |             |
|                             | 5-yr<br>grth     | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth   | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth      | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |
| SITE INDEX                  | 16               |             | PRESENT AGE  |             | 55           |             | PRESENT HEIGHT |             | 17.5 M       |             | HEIGHT IN 5 YEARS |             | 19.0 M       |             |              |             |
| VOL (m <sup>3</sup> /ha)    | 245              | 49          | 294          | 51          | 245          | 51          | 234            | 53          | 222          | 53          | 216               | 56          | 200          | 60          | 179          | 66          |
| BA (m <sup>2</sup> /ha)     | 30               | 3.1         | 33           | 3.8         | 28           | 4.0         | 26             | 4.3         | 25           | 4.4         | 24                | 4.8         | 22           | 5.5         | 20           | 6.5         |
| VOL (m <sup>3</sup> /ha)    | 280              | 48          | 328          | 49          | 272          | 50          | 258            | 51          | 245          | 51          | 237               | 53          | 219          | 57          | 194          | 62          |
| BA (m <sup>2</sup> /ha)     | 34               | 2.8         | 37           | 3.4         | 30           | 3.6         | 29             | 3.8         | 27           | 4.0         | 27                | 4.3         | 25           | 5.0         | 22           | 5.9         |
| VOL (m <sup>3</sup> /ha)    | 315              | 49          | 364          | 49          | 299          | 49          | 284            | 49          | 268          | 50          | 259               | 51          | 238          | 54          | 209          | 59          |
| BA (m <sup>2</sup> /ha)     | 38               | 2.5         | 41           | 3.1         | 34           | 3.2         | 32             | 3.4         | 30           | 3.6         | 29                | 3.9         | 27           | 4.6         | 23           | 5.5         |
| VOL (m <sup>3</sup> /ha)    | 350              | 50          | 400          | 48          | 327          | 48          | 309            | 49          | 292          | 49          | 281               | 50          | 257          | 52          | 224          | 57          |
| BA (m <sup>2</sup> /ha)     | 42               | 2.3         | 45           | 2.8         | 37           | 3.0         | 35             | 3.1         | 33           | 3.3         | 32                | 3.6         | 29           | 4.2         | 25           | 5.0         |
| VOL (m <sup>3</sup> /ha)    | 385              | 51          | 436          | 49          | 355          | 48          | 336            | 48          | 316          | 48          | 304               | 49          | 278          | 51          | 240          | 55          |
| BA (m <sup>2</sup> /ha)     | 47               | 2.1         | 49           | 2.5         | 40           | 2.7         | 38             | 2.9         | 35           | 3.0         | 34                | 3.3         | 31           | 3.9         | 27           | 4.7         |
| VOL (m <sup>3</sup> /ha)    | 420              | 52          | 472          | 49          | 384          | 49          | 362            | 48          | 341          | 48          | 328               | 49          | 298          | 50          | 257          | 53          |
| BA (m <sup>2</sup> /ha)     | 51               | 1.9         | 53           | 2.4         | 43           | 2.5         | 41             | 2.7         | 38           | 2.8         | 37                | 3.1         | 33           | 3.6         | 29           | 4.4         |
| VOL (m <sup>3</sup> /ha)    | 455              | 54          | 509          | 50          | 413          | 49          | 389            | 49          | 366          | 49          | 351               | 48          | 319          | 49          | 274          | 52          |
| BA (m <sup>2</sup> /ha)     | 55               | 1.8         | 57           | 2.2         | 46           | 2.3         | 43             | 2.5         | 41           | 2.6         | 39                | 2.9         | 36           | 3.4         | 31           | 4.1         |
| VOL (m <sup>3</sup> /ha)    | 490              | 56          | 546          | 51          | 442          | 50          | 416            | 49          | 391          | 49          | 375               | 48          | 340          | 49          | 291          | 51          |
| BA (m <sup>2</sup> /ha)     | 59               | 1.6         | 61           | 2.0         | 49           | 2.2         | 46             | 2.3         | 44           | 2.4         | 42                | 2.7         | 38           | 3.2         | 33           | 3.8         |
| SITE INDEX                  | 16               |             | PRESENT AGE  |             | 60           |             | PRESENT HEIGHT |             | 19.0 M       |             | HEIGHT IN 5 YEARS |             | 20.4 M       |             |              |             |
| VOL (m <sup>3</sup> /ha)    | 280              | 44          | 324          | 45          | 268          | 46          | 254            | 46          | 241          | 47          | 233               | 49          | 214          | 52          | 189          | 58          |
| BA (m <sup>2</sup> /ha)     | 31               | 2.4         | 34           | 2.9         | 28           | 3.1         | 26             | 3.3         | 25           | 3.4         | 24                | 3.7         | 22           | 4.3         | 20           | 5.1         |
| VOL (m <sup>3</sup> /ha)    | 315              | 45          | 360          | 44          | 295          | 45          | 279            | 45          | 264          | 46          | 255               | 47          | 233          | 50          | 204          | 55          |
| BA (m <sup>2</sup> /ha)     | 35               | 2.1         | 37           | 2.6         | 31           | 2.8         | 29             | 2.9         | 27           | 3.1         | 26                | 3.4         | 24           | 3.9         | 21           | 4.7         |
| VOL (m <sup>3</sup> /ha)    | 350              | 45          | 395          | 44          | 323          | 44          | 305            | 44          | 288          | 45          | 277               | 46          | 253          | 48          | 220          | 52          |
| BA (m <sup>2</sup> /ha)     | 39               | 1.9         | 41           | 2.4         | 34           | 2.5         | 32             | 2.7         | 30           | 2.8         | 29                | 3.1         | 26           | 3.6         | 23           | 4.3         |
| VOL (m <sup>3</sup> /ha)    | 385              | 46          | 431          | 44          | 351          | 44          | 331            | 44          | 312          | 44          | 300               | 45          | 273          | 47          | 236          | 50          |
| BA (m <sup>2</sup> /ha)     | 43               | 1.8         | 45           | 2.2         | 36           | 2.3         | 34             | 2.5         | 32           | 2.6         | 31                | 2.8         | 28           | 3.3         | 25           | 4.0         |
| VOL (m <sup>3</sup> /ha)    | 420              | 48          | 468          | 45          | 380          | 44          | 358            | 44          | 336          | 44          | 324               | 44          | 294          | 46          | 253          | 49          |
| BA (m <sup>2</sup> /ha)     | 47               | 1.6         | 48           | 2.0         | 39           | 2.1         | 37             | 2.3         | 35           | 2.4         | 34                | 2.6         | 31           | 3.1         | 26           | 3.7         |
| VOL (m <sup>3</sup> /ha)    | 455              | 49          | 504          | 46          | 408          | 45          | 385            | 45          | 361          | 44          | 347               | 44          | 315          | 45          | 269          | 47          |
| BA (m <sup>2</sup> /ha)     | 51               | 1.5         | 52           | 1.9         | 42           | 2.0         | 40             | 2.1         | 37           | 2.2         | 36                | 2.4         | 33           | 2.9         | 28           | 3.5         |
| VOL (m <sup>3</sup> /ha)    | 490              | 51          | 541          | 47          | 437          | 46          | 412            | 45          | 386          | 45          | 371               | 44          | 336          | 45          | 287          | 46          |
| BA (m <sup>2</sup> /ha)     | 55               | 1.4         | 56           | 1.7         | 45           | 1.8         | 43             | 2.0         | 40           | 2.1         | 39                | 2.3         | 35           | 2.7         | 30           | 3.3         |
| VOL (m <sup>3</sup> /ha)    | 525              | 53          | 578          | 48          | 466          | 47          | 439            | 46          | 411          | 45          | 395               | 44          | 357          | 44          | 304          | 46          |
| BA (m <sup>2</sup> /ha)     | 59               | 1.3         | 60           | 1.6         | 48           | 1.7         | 46             | 1.8         | 43           | 1.9         | 41                | 2.1         | 37           | 2.5         | 32           | 3.1         |
| VOL (m <sup>3</sup> /ha)    | 560              | 55          | 615          | 49          | 496          | 48          | 466            | 47          | 437          | 46          | 419               | 45          | 378          | 44          | 321          | 45          |
| BA (m <sup>2</sup> /ha)     | 62               | 1.2         | 64           | 1.5         | 51           | 1.6         | 48             | 1.7         | 45           | 1.8         | 43                | 2.0         | 39           | 2.4         | 33           | 2.9         |



Pulpwood stacked along road through Orr Lake Forest, Simcoe County. (T. Jenkins, 1961)

TABLE 3 (continued)



Skidding red pine pulpwood from Vivian Forest, York County. (W. Masters, 1960)

| Percent thinning              |              |             |                    |             |              |             |                       |             |              |             |                          |             |               |             |              |             |
|-------------------------------|--------------|-------------|--------------------|-------------|--------------|-------------|-----------------------|-------------|--------------|-------------|--------------------------|-------------|---------------|-------------|--------------|-------------|
| Stand<br>before<br>thinning   | 0            |             | 20                 |             | 25           |             | 30                    |             | 33           |             | 40                       |             | 50            |             | 60           |             |
|                               | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth       | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth          | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth             | 5-yr<br>y'd | 5-yr<br>grth  | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
| <b>SITE INDEX</b>             | <b>18</b>    |             | <b>PRESENT AGE</b> |             | <b>20</b>    |             | <b>PRESENT HEIGHT</b> |             | <b>7.5 M</b> |             | <b>HEIGHT IN 5 YEARS</b> |             | <b>9.3 M</b>  |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>35</b>    | 72 107      | 76 103             | 77 102      | 78 101       | 79 101      | 81 100                | 84 98       | 87 97        |             |                          |             |               |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>11</b>    | 14.2 25     | 15.6 24            | 16.0 24     | 16.3 24      | 16.6 24     | 17.1 24               | 18.0 23     | 18.9 23      |             |                          |             |               |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>70</b>    | 62 132      | 65 120             | 66 117      | 68 115       | 68 113      | 70 110                | 74 106      | 78 102       |             |                          |             |               |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>21</b>    | 10.0 31     | 11.6 28            | 12.0 28     | 12.5 27      | 12.8 27     | 13.5 26               | 14.7 25     | 16.0 24      |             |                          |             |               |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>105</b>   | 60 165      | 61 143             | 61 138      | 62 134       | 62 131      | 64 125                | 67 116      | 71 109       |             |                          |             |               |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>31</b>    | 7.6 38      | 9.0 34             | 9.4 32      | 9.9 31       | 10.2 31     | 11.0 29               | 12.2 27     | 13.7 26      |             |                          |             |               |             |              |             |
| <b>SITE INDEX</b>             | <b>18</b>    |             | <b>PRESENT AGE</b> |             | <b>25</b>    |             | <b>PRESENT HEIGHT</b> |             | <b>9.3 M</b> |             | <b>HEIGHT IN 5 YEARS</b> |             | <b>11.1 M</b> |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>70</b>    | 68 138      | 73 128             | 74 125      | 76 123       | 77 122      | 79 119                | 83 115      | 88 112       |             |                          |             |               |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>17</b>    | 10.3 27     | 11.7 25            | 12.1 25     | 12.6 24      | 12.8 24     | 13.5 23               | 14.5 23     | 15.7 22      |             |                          |             |               |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>105</b>   | 62 167      | 65 148             | 67 144      | 68 140       | 69 137      | 71 132                | 75 124      | 80 118       |             |                          |             |               |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>25</b>    | 7.9 33      | 9.3 29             | 9.7 28      | 10.2 27      | 10.4 27     | 11.1 26               | 12.3 24     | 13.6 23      |             |                          |             |               |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>140</b>   | 61 201      | 62 173             | 63 166      | 63 160       | 64 156      | 66 147                | 69 136      | 74 126       |             |                          |             |               |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>33</b>    | 6.4 39      | 7.6 34             | 8.0 32      | 8.4 31       | 8.7 30      | 9.4 29                | 10.6 27     | 12.0 25      |             |                          |             |               |             |              |             |

TABLE 3 (continued)

| Percent thinning |                             |              |             |              |             |              |             |                |             |              |             |                   |             |              |             |              |             |
|------------------|-----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------------|-------------|
|                  | Stand<br>before<br>thinning | 0            |             | 20           |             | 25           |             | 30             |             | 33           |             | 40                |             | 50           |             | 60           |             |
|                  |                             | 5-yr<br>grth | 5-yr<br>y/d | 5-yr<br>grth | 5-yr<br>y/d | 5-yr<br>grth | 5-yr<br>y/d | 5-yr<br>grth   | 5-yr<br>y/d | 5-yr<br>grth | 5-yr<br>y/d | 5-yr<br>grth      | 5-yr<br>y/d | 5-yr<br>grth | 5-yr<br>y/d | 5-yr<br>grth | 5-yr<br>y/d |
|                  | SITE INDEX                  | 18           |             | PRESENT AGE  |             | 30           |             | PRESENT HEIGHT |             | 11.1 M       |             | HEIGHT IN 5 YEARS |             | 12.8 M       |             |              |             |
| VOL (m³/ha)      | 105                         | 66           | 171         | 71           | 153         | 72           | 149         | 74             | 145         | 75           | 143         | 78                | 138         | 82           | 132         | 88           | 126         |
| BA (m²/ha)       | 21                          | 8.0          | 29          | 9.3          | 26          | 9.7          | 25          | 10.2           | 24          | 10.4         | 24          | 11.1              | 23          | 12.1         | 22          | 13.3         | 21          |
| VOL (m³/ha)      | 140                         | 62           | 202         | 65           | 176         | 66           | 170         | 68             | 164         | 69           | 160         | 71                | 153         | 75           | 142         | 81           | 133         |
| BA (m²/ha)       | 27                          | 6.5          | 34          | 7.7          | 29          | 8.1          | 28          | 8.5            | 27          | 8.8          | 27          | 9.4               | 26          | 10.5         | 24          | 11.8         | 22          |
| VOL (m³/ha)      | 175                         | 61           | 236         | 62           | 201         | 63           | 193         | 64             | 185         | 65           | 180         | 66                | 169         | 70           | 155         | 76           | 142         |
| BA (m²/ha)       | 34                          | 5.4          | 39          | 6.5          | 34          | 6.0          | 32          | 7.3            | 31          | 7.5          | 30          | 8.2               | 28          | 9.2          | 26          | 10.6         | 24          |
| VOL (m³/ha)      | 210                         | 62           | 272         | 61           | 228         | 62           | 218         | 62             | 207         | 62           | 201         | 64                | 187         | 67           | 169         | 71           | 152         |
| BA (m²/ha)       | 41                          | 4.6          | 45          | 5.6          | 38          | 6.0          | 36          | 6.3            | 35          | 6.5          | 34          | 7.1               | 31          | 8.2          | 28          | 9.5          | 25          |
|                  | SITE INDEX                  | 18           |             | PRESENT AGE  |             | 35           |             | PRESENT HEIGHT |             | 12.8 M       |             | HEIGHT IN 5 YEARS |             | 14.6 M       |             |              |             |
| VOL (m³/ha)      | 140                         | 64           | 204         | 68           | 179         | 70           | 173         | 72             | 168         | 73           | 165         | 76                | 157         | 81           | 148         | 87           | 140         |
| BA (m²/ha)       | 23                          | 6.5          | 30          | 7.7          | 26          | 8.0          | 26          | 8.4            | 25          | 8.7          | 24          | 9.3               | 23          | 10.3         | 22          | 11.5         | 21          |
| VOL (m³/ha)      | 175                         | 62           | 237         | 64           | 203         | 65           | 195         | 67             | 187         | 68           | 183         | 70                | 173         | 75           | 159         | 81           | 147         |
| BA (m²/ha)       | 29                          | 5.4          | 35          | 6.5          | 30          | 6.9          | 29          | 7.2            | 28          | 7.5          | 27          | 8.1               | 25          | 9.1          | 23          | 10.4         | 22          |
| VOL (m³/ha)      | 210                         | 61           | 271         | 62           | 229         | 63           | 219         | 64             | 209         | 64           | 203         | 66                | 190         | 70           | 172         | 76           | 156         |
| BA (m²/ha)       | 35                          | 4.7          | 40          | 5.7          | 34          | 6.0          | 32          | 6.3            | 31          | 6.5          | 30          | 7.1               | 28          | 8.1          | 25          | 9.4          | 23          |
| VOL (m³/ha)      | 245                         | 62           | 307         | 61           | 256         | 62           | 244         | 62             | 232         | 62           | 225         | 64                | 208         | 67           | 186         | 72           | 166         |
| BA (m²/ha)       | 41                          | 4.1          | 45          | 5.0          | 37          | 5.3          | 36          | 5.6            | 34          | 5.8          | 33          | 6.3               | 31          | 7.3          | 27          | 8.5          | 24          |
| VOL (m³/ha)      | 280                         | 63           | 343         | 61           | 284         | 61           | 270         | 61             | 255         | 61           | 247         | 62                | 228         | 65           | 202         | 69           | 177         |
| BA (m²/ha)       | 46                          | 3.6          | 50          | 4.4          | 41          | 4.7          | 39          | 5.0            | 37          | 5.2          | 36          | 5.7               | 33          | 6.6          | 30          | 7.8          | 26          |
|                  | SITE INDEX                  | 18           |             | PRESENT AGE  |             | 40           |             | PRESENT HEIGHT |             | 14.6 M       |             | HEIGHT IN 5 YEARS |             | 16.3 M       |             |              |             |
| VOL (m³/ha)      | 175                         | 62           | 237         | 66           | 205         | 67           | 197         | 69             | 190         | 70           | 185         | 73                | 176         | 78           | 163         | 85           | 151         |
| BA (m²/ha)       | 26                          | 5.3          | 31          | 6.4          | 27          | 6.7          | 26          | 7.0            | 25          | 7.3          | 24          | 7.8               | 23          | 8.8          | 21          | 10.0         | 20          |
| VOL (m³/ha)      | 210                         | 60           | 270         | 63           | 230         | 64           | 220         | 65             | 210         | 60           | 205         | 68                | 192         | 73           | 175         | 80           | 160         |
| BA (m²/ha)       | 31                          | 4.6          | 35          | 5.5          | 30          | 5.8          | 29          | 6.2            | 28          | 6.4          | 27          | 6.9               | 25          | 7.9          | 23          | 9.0          | 21          |
| VOL (m³/ha)      | 245                         | 60           | 305         | 61           | 256         | 62           | 244         | 63             | 232         | 63           | 225         | 65                | 210         | 69           | 189         | 75           | 170         |
| BA (m²/ha)       | 36                          | 4.0          | 40          | 4.9          | 33          | 5.2          | 32          | 5.5            | 30          | 5.7          | 29          | 6.2               | 27          | 7.1          | 25          | 8.3          | 22          |
| VOL (m³/ha)      | 280                         | 61           | 341         | 60           | 283         | 61           | 269         | 61             | 255         | 61           | 247         | 63                | 228         | 66           | 203         | 72           | 180         |
| BA (m²/ha)       | 41                          | 3.6          | 44          | 4.4          | 37          | 4.6          | 35          | 4.9            | 33          | 5.1          | 32          | 5.6               | 30          | 6.4          | 27          | 7.6          | 24          |
| VOL (m³/ha)      | 315                         | 62           | 377         | 60           | 311         | 60           | 295         | 60             | 279         | 60           | 270         | 61                | 248         | 64           | 218         | 69           | 191         |
| BA (m²/ha)       | 46                          | 3.2          | 49          | 3.9          | 41          | 4.2          | 38          | 4.4            | 36          | 4.6          | 35          | 5.1               | 32          | 5.9          | 29          | 7.0          | 25          |
| VOL (m³/ha)      | 350                         | 64           | 414         | 61           | 340         | 60           | 321         | 60             | 303         | 60           | 293         | 61                | 268         | 62           | 234         | 66           | 203         |
| BA (m²/ha)       | 51                          | 2.9          | 54          | 3.6          | 44          | 3.8          | 42          | 4.0            | 40          | 4.2          | 38          | 4.6               | 35          | 5.4          | 31          | 6.5          | 27          |

TABLE 3 (continued)

|               |                             | Percent thinning |             |              |             |                       |             |              |             |                          |             |              |             |              |             |              |             |
|---------------|-----------------------------|------------------|-------------|--------------|-------------|-----------------------|-------------|--------------|-------------|--------------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|               | Stand<br>before<br>thinning | 0                |             | 20           |             | 25                    |             | 30           |             | 33                       |             | 40           |             | 50           |             | 60           |             |
|               |                             | 5-yr<br>grth     | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth          | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth             | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |
| SITE INDEX 18 |                             | PRESENT AGE 45   |             |              |             | PRESENT HEIGHT 16.3 M |             |              |             | HEIGHT IN 5 YEARS 18.0 M |             |              |             |              |             |              |             |
| VOL (m³/ha)   | 210                         | 59               | 269         | 62           | 229         | 64                    | 220         | 65           | 210         | 66                       | 205         | 69           | 193         | 74           | 176         | 81           | 162         |
| BA (m²/ha)    | 27                          | 4.4              | 32          | 5.3          | 27          | 5.5                   | 26          | 5.9          | 25          | 6.1                      | 24          | 6.6          | 23          | 7.4          | 21          | 8.5          | 19          |
| VOL (m³/ha)   | 245                         | 58               | 303         | 60           | 225         | 61                    | 243         | 62           | 232         | 63                       | 225         | 65           | 210         | 70           | 189         | 77           | 171         |
| BA (m²/ha)    | 32                          | 3.8              | 36          | 4.7          | 30          | 4.9                   | 29          | 5.2          | 27          | 5.4                      | 27          | 5.9          | 25          | 6.7          | 22          | 7.8          | 20          |
| VOL (m³/ha)   | 280                         | 58               | 338         | 59           | 282         | 59                    | 268         | 60           | 254         | 61                       | 246         | 63           | 228         | 67           | 204         | 73           | 181         |
| BA (m²/ha)    | 36                          | 3.4              | 40          | 4.2          | 33          | 4.4                   | 32          | 4.7          | 30          | 4.8                      | 29          | 5.3          | 27          | 6.1          | 24          | 7.2          | 21          |
| VOL (m³/ha)   | 315                         | 59               | 374         | 58           | 309         | 58                    | 293         | 59           | 278         | 59                       | 268         | 61           | 247         | 64           | 218         | 69           | 192         |
| BA (m²/ha)    | 41                          | 3.1              | 44          | 3.8          | 36          | 4.0                   | 35          | 4.2          | 33          | 4.4                      | 32          | 4.8          | 29          | 5.6          | 26          | 6.6          | 23          |
| VOL (m³/ha)   | 350                         | 60               | 410         | 58           | 337         | 58                    | 319         | 58           | 302         | 59                       | 291         | 59           | 267         | 62           | 234         | 67           | 203         |
| BA (m²/ha)    | 46                          | 2.8              | 48          | 3.4          | 40          | 3.6                   | 38          | 3.9          | 36          | 4.0                      | 34          | 4.4          | 32          | 5.1          | 28          | 6.1          | 24          |
| VOL (m³/ha)   | 385                         | 62               | 447         | 59           | 366         | 58                    | 346         | 58           | 326         | 58                       | 314         | 59           | 287         | 60           | 250         | 64           | 215         |
| BA (m²/ha)    | 50                          | 2.5              | 53          | 3.1          | 43          | 3.3                   | 41          | 3.5          | 38          | 3.7                      | 37          | 4.1          | 34          | 4.8          | 30          | 5.7          | 25          |
| VOL (m³/ha)   | 420                         | 64               | 484         | 60           | 394         | 59                    | 372         | 58           | 351         | 58                       | 338         | 58           | 308         | 59           | 266         | 63           | 227         |
| BA (m²/ha)    | 55                          | 2.3              | 57          | 2.9          | 46          | 3.1                   | 44          | 3.3          | 41          | 3.4                      | 40          | 3.8          | 36          | 4.4          | 31          | 5.3          | 27          |
| SITE INDEX 18 |                             | PRESENT AGE 50   |             |              |             | PRESENT HEIGHT 18.0 M |             |              |             | HEIGHT IN 5 YEARS 19.7 M |             |              |             |              |             |              |             |
| VOL (m³/ha)   | 245                         | 56               | 301         | 58           | 253         | 59                    | 241         | 60           | 230         | 61                       | 223         | 64           | 208         | 69           | 188         | 75           | 170         |
| BA (m²/ha)    | 29                          | 3.5              | 32          | 4.3          | 27          | 4.5                   | 26          | 4.8          | 25          | 4.9                      | 24          | 5.4          | 23          | 6.2          | 20          | 7.1          | 18          |
| VOL (m³/ha)   | 280                         | 55               | 335         | 56           | 279         | 57                    | 266         | 58           | 252         | 59                       | 244         | 61           | 226         | 65           | 202         | 71           | 180         |
| BA (m²/ha)    | 33                          | 3.1              | 36          | 3.8          | 30          | 4.0                   | 29          | 4.3          | 27          | 4.4                      | 26          | 4.9          | 24          | 5.6          | 22          | 6.6          | 19          |
| VOL (m³/ha)   | 315                         | 56               | 371         | 55           | 306         | 56                    | 291         | 57           | 275         | 57                       | 266         | 59           | 245         | 62           | 217         | 68           | 190         |
| BA (m²/ha)    | 37                          | 2.8              | 40          | 3.4          | 33          | 3.6                   | 31          | 3.9          | 30          | 4.0                      | 29          | 4.4          | 26          | 5.1          | 23          | 6.1          | 21          |
| VOL (m³/ha)   | 350                         | 56               | 406         | 55           | 334         | 55                    | 316         | 56           | 299         | 56                       | 288         | 57           | 265         | 60           | 232         | 65           | 202         |
| BA (m²/ha)    | 41                          | 2.5              | 44          | 3.1          | 36          | 3.3                   | 34          | 3.5          | 32          | 3.7                      | 31          | 4.0          | 29          | 4.7          | 25          | 5.6          | 22          |
| VOL (m³/ha)   | 385                         | 58               | 443         | 55           | 362         | 55                    | 342         | 55           | 323         | 55                       | 311         | 56           | 285         | 58           | 248         | 63           | 213         |
| BA (m²/ha)    | 45                          | 2.3              | 48          | 2.9          | 39          | 3.1                   | 37          | 3.2          | 35          | 3.4                      | 34          | 3.7          | 31          | 4.4          | 27          | 5.2          | 23          |
| VOL (m³/ha)   | 420                         | 59               | 479         | 56           | 391         | 55                    | 369         | 55           | 347         | 55                       | 335         | 56           | 305         | 57           | 264         | 61           | 225         |
| BA (m²/ha)    | 49                          | 2.1              | 52          | 2.7          | 42          | 2.8                   | 40          | 3.0          | 37          | 3.1                      | 36          | 3.5          | 33          | 4.1          | 28          | 4.9          | 24          |
| VOL (m³/ha)   | 455                         | 61               | 516         | 57           | 420         | 56                    | 396         | 56           | 372         | 55                       | 358         | 55           | 326         | 56           | 281         | 59           | 238         |
| BA (m²/ha)    | 53                          | 2.0              | 55          | 2.5          | 45          | 2.6                   | 43          | 2.8          | 40          | 2.9                      | 39          | 3.2          | 35          | 3.8          | 30          | 4.6          | 26          |
| VOL (m³/ha)   | 490                         | 63               | 553         | 58           | 449         | 57                    | 423         | 56           | 397         | 56                       | 382         | 55           | 347         | 56           | 298         | 58           | 251         |
| BA (m²/ha)    | 58                          | 1.9              | 59          | 2.3          | 48          | 2.4                   | 45          | 2.6          | 43          | 2.7                      | 41          | 3.0          | 37          | 3.6          | 32          | 4.3          | 27          |

TABLE 3 (continued)

|               |     | Percent thinning      |          |           |          |                       |          |           |          |                          |          |           |          |           |          |           |          |           |          |
|---------------|-----|-----------------------|----------|-----------|----------|-----------------------|----------|-----------|----------|--------------------------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
|               |     | Stand before thinning |          | 0         |          | 20                    |          | 25        |          | 30                       |          | 33        |          | 40        |          | 50        |          | 60        |          |
|               |     | 5-yr grth             | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth             | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth                | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld |
| SITE INDEX 18 |     | PRESENT AGE 55        |          |           |          | PRESENT HEIGHT 19.7 M |          |           |          | HEIGHT IN 5 YEARS 21.3 M |          |           |          |           |          |           |          |           |          |
| VOL (m³/ha)   | 280 | 51                    | 331      | 52        | 275      | 53                    | 261      | 54        | 248      | 55                       | 240      | 57        | 222      | 61        | 198      | 67        | 175      |           |          |
| BA (m²/ha)    | 30  | 2.7                   | 33       | 3.3       | 27       | 3.5                   | 26       | 3.7       | 25       | 3.9                      | 24       | 4.2       | 22       | 4.9       | 20       | 5.7       | 17       |           |          |
| VOL (m³/ha)   | 315 | 51                    | 366      | 51        | 302      | 52                    | 286      | 52        | 271      | 53                       | 262      | 55        | 241      | 58        | 213      | 64        | 186      |           |          |
| BA (m²/ha)    | 34  | 2.4                   | 36       | 3.0       | 30       | 3.2                   | 28       | 3.4       | 27       | 3.5                      | 26       | 3.8       | 24       | 4.5       | 21       | 5.3       | 19       |           |          |
| VOL (m³/ha)   | 350 | 52                    | 402      | 51        | 330      | 51                    | 312      | 51        | 295      | 52                       | 284      | 53        | 261      | 56        | 228      | 61        | 197      |           |          |
| BA (m²/ha)    | 38  | 2.2                   | 40       | 2.7       | 33       | 2.9                   | 31       | 3.1       | 29       | 3.2                      | 28       | 3.5       | 26       | 4.1       | 23       | 4.9       | 20       |           |          |
| VOL (m³/ha)   | 385 | 53                    | 438      | 51        | 358      | 51                    | 338      | 51        | 319      | 51                       | 307      | 52        | 281      | 54        | 244      | 59        | 209      |           |          |
| BA (m²/ha)    | 41  | 2.0                   | 43       | 2.5       | 36       | 2.6                   | 34       | 2.8       | 32       | 2.9                      | 30       | 3.2       | 28       | 3.8       | 24       | 4.6       | 21       |           |          |
| VOL (m³/ha)   | 420 | 54                    | 474      | 51        | 386      | 51                    | 365      | 51        | 343      | 51                       | 330      | 51        | 301      | 53        | 260      | 57        | 221      |           |          |
| BA (m²/ha)    | 45  | 1.9                   | 47       | 2.3       | 38       | 2.4                   | 36       | 2.6       | 34       | 2.7                      | 33       | 3.0       | 30       | 3.5       | 26       | 4.3       | 22       |           |          |
| VOL (m³/ha)   | 455 | 56                    | 511      | 52        | 415      | 51                    | 391      | 51        | 368      | 51                       | 354      | 51        | 322      | 52        | 277      | 55        | 234      |           |          |
| BA (m²/ha)    | 49  | 1.7                   | 51       | 2.1       | 41       | 2.3                   | 39       | 2.4       | 36       | 2.5                      | 35       | 2.8       | 32       | 3.3       | 27       | 4.0       | 23       |           |          |
| VOL (m³/ha)   | 490 | 57                    | 547      | 53        | 444      | 52                    | 418      | 51        | 393      | 51                       | 378      | 51        | 342      | 51        | 293      | 54        | 246      |           |          |
| BA (m²/ha)    | 53  | 1.6                   | 54       | 2.0       | 44       | 2.1                   | 41       | 2.3       | 39       | 2.4                      | 37       | 2.6       | 34       | 3.1       | 29       | 3.7       | 25       |           |          |
| VOL (m³/ha)   | 525 | 59                    | 584      | 54        | 473      | 53                    | 445      | 52        | 418      | 52                       | 401      | 51        | 364      | 51        | 311      | 53        | 259      |           |          |
| BA (m²/ha)    | 56  | 1.5                   | 58       | 1.9       | 47       | 2.0                   | 44       | 2.1       | 41       | 2.2                      | 40       | 2.5       | 36       | 2.9       | 31       | 3.5       | 26       |           |          |
| VOL (m³/ha)   | 560 | 61                    | 621      | 55        | 502      | 54                    | 472      | 53        | 443      | 52                       | 426      | 51        | 385      | 51        | 328      | 52        | 273      |           |          |
| BA (m²/ha)    | 60  | 1.4                   | 62       | 1.8       | 50       | 1.9                   | 47       | 2.0       | 44       | 2.1                      | 42       | 2.3       | 38       | 2.7       | 33       | 3.3       | 27       |           |          |
| SITE INDEX 18 |     | PRESENT AGE 60        |          |           |          | PRESENT HEIGHT 21.3 M |          |           |          | HEIGHT IN 5 YEARS 22.9 M |          |           |          |           |          |           |          |           |          |
| VOL (m³/ha)   | 280 | 45                    | 325      | 46        | 268      | 46                    | 255      | 47        | 241      | 48                       | 233      | 49        | 215      | 53        | 190      | 59        | 167      |           |          |
| BA (m²/ha)    | 28  | 2.1                   | 30       | 2.6       | 25       | 2.8                   | 23       | 3.0       | 22       | 3.1                      | 22       | 3.4       | 20       | 3.9       | 18       | 4.6       | 15       |           |          |
| VOL (m³/ha)   | 315 | 45                    | 360      | 45        | 296      | 45                    | 280      | 46        | 264      | 46                       | 255      | 48        | 234      | 51        | 205      | 56        | 178      |           |          |
| BA (m²/ha)    | 31  | 1.9                   | 33       | 2.4       | 27       | 2.5                   | 26       | 2.7       | 24       | 2.8                      | 24       | 3.1       | 22       | 3.6       | 19       | 4.3       | 16       |           |          |
| VOL (m³/ha)   | 350 | 46                    | 396      | 45        | 324      | 45                    | 306      | 45        | 288      | 45                       | 278      | 46        | 254      | 49        | 221      | 53        | 190      |           |          |
| BA (m²/ha)    | 35  | 1.7                   | 36       | 2.2       | 30       | 2.3                   | 28       | 2.4       | 27       | 2.5                      | 26       | 2.8       | 23       | 3.3       | 20       | 3.9       | 18       |           |          |
| VOL (m³/ha)   | 385 | 47                    | 432      | 45        | 352      | 45                    | 332      | 45        | 312      | 45                       | 301      | 45        | 274      | 47        | 237      | 51        | 202      |           |          |
| BA (m²/ha)    | 38  | 1.6                   | 40       | 2.0       | 32       | 2.1                   | 31       | 2.2       | 29       | 2.3                      | 28       | 2.6       | 25       | 3.0       | 22       | 3.6       | 19       |           |          |
| VOL (m³/ha)   | 420 | 48                    | 468      | 45        | 380      | 45                    | 358      | 45        | 337      | 45                       | 324      | 45        | 295      | 46        | 253      | 50        | 214      |           |          |
| BA (m²/ha)    | 42  | 1.5                   | 43       | 1.8       | 35       | 1.9                   | 33       | 2.1       | 31       | 2.2                      | 30       | 2.4       | 27       | 2.8       | 23       | 3.4       | 20       |           |          |
| VOL (m³/ha)   | 455 | 50                    | 505      | 46        | 409      | 45                    | 385      | 45        | 362      | 45                       | 348      | 45        | 315      | 46        | 270      | 48        | 227      |           |          |
| BA (m²/ha)    | 45  | 1.4                   | 46       | 1.7       | 38       | 1.8                   | 35       | 1.9       | 33       | 2.0                      | 32       | 2.2       | 30       | 2.6       | 25       | 3.2       | 21       |           |          |
| VOL (m³/ha)   | 490 | 51                    | 541      | 47        | 438      | 46                    | 412      | 45        | 387      | 45                       | 371      | 45        | 336      | 45        | 287      | 47        | 240      |           |          |
| BA (m²/ha)    | 49  | 1.3                   | 50       | 1.6       | 40       | 1.7                   | 38       | 1.8       | 36       | 1.9                      | 34       | 2.1       | 31       | 2.4       | 26       | 3.0       | 22       |           |          |
| VOL (m³/ha)   | 525 | 53                    | 578      | 48        | 467      | 47                    | 439      | 46        | 412      | 46                       | 395      | 45        | 358      | 45        | 304      | 46        | 253      |           |          |
| BA (m²/ha)    | 52  | 1.2                   | 53       | 1.5       | 43       | 1.6                   | 40       | 1.7       | 38       | 1.7                      | 36       | 1.9       | 33       | 2.3       | 28       | 2.8       | 23       |           |          |
| VOL (m³/ha)   | 560 | 55                    | 615      | 49        | 496      | 48                    | 466      | 47        | 437      | 46                       | 420      | 45        | 379      | 45        | 322      | 46        | 266      |           |          |
| BA (m²/ha)    | 55  | 1.1                   | 57       | 1.4       | 46       | 1.5                   | 43       | 1.6       | 40       | 1.6                      | 39       | 1.8       | 35       | 2.2       | 30       | 2.7       | 25       |           |          |
| VOL (m³/ha)   | 595 | 57                    | 652      | 50        | 525      | 49                    | 494      | 48        | 463      | 47                       | 444      | 46        | 400      | 45        | 339      | 45        | 280      |           |          |
| BA (m²/ha)    | 59  | 1.1                   | 60       | 1.3       | 48       | 1.4                   | 45       | 1.5       | 43       | 1.6                      | 41       | 1.7       | 37       | 2.1       | 31       | 2.5       | 26       |           |          |



Second thinning of red pine pulpwood and utility poles in Larose Forest, Prescott and Russell County. (W. Masters, 1959)

TABLE 3 (continued)

|             |     | Percent thinning            |              |             |              |             |              |             |              |             |                |             |              |             |              |             |                   |             |  |  |        |  |
|-------------|-----|-----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|--------------|-------------|-------------------|-------------|--|--|--------|--|
|             |     | Stand<br>before<br>thinning | 0            |             | 20           |             | 25           |             | 30           |             | 33             |             | 40           |             | 50           |             | 60                |             |  |  |        |  |
|             |     |                             | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth   | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth      | 5-yr<br>yld |  |  |        |  |
|             |     | SITE INDEX                  | 20           |             | PRESENT AGE  |             |              |             | 20           |             | PRESENT HEIGHT |             |              |             | 8.3 M        |             | HEIGHT IN 5 YEARS |             |  |  | 10.3 M |  |
| VOL (m³/ha) | 70  | 70                          | 140          |             | 74           | 129         | 75           | 126         | 77           | 124         | 78             | 123         | 80           | 119         | 83           | 115         | 88                | 112         |  |  |        |  |
| BA (m²/ha)  | 19  | 10.7                        | 29           |             | 12.2         | 27          | 12.7         | 27          | 13.1         | 26          | 13.4           | 26          | 14.1         | 25          | 15.3         | 24          | 16.5              | 24          |  |  |        |  |
| VOL (m³/ha) | 105 | 66                          | 171          |             | 68           | 151         | 69           | 146         | 70           | 142         | 71             | 139         | 73           | 133         | 76           | 125         | 80                | 119         |  |  |        |  |
| BA (m²/ha)  | 28  | 8.2                         | 36           |             | 9.6          | 32          | 10.1         | 31          | 10.6         | 30          | 10.9           | 29          | 11.6         | 28          | 12.9         | 26          | 14.3              | 25          |  |  |        |  |
| VOL (m³/ha) | 140 | 67                          | 207          |             | 66           | 177         | 67           | 170         | 67           | 163         | 67             | 159         | 68           | 150         | 71           | 138         | 75                | 127         |  |  |        |  |
| BA (m²/ha)  | 37  | 6.5                         | 43           |             | 7.9          | 37          | 8.3          | 36          | 8.7          | 34          | 9.0            | 33          | 9.7          | 31          | 11.0         | 29          | 12.5              | 27          |  |  |        |  |
|             |     | SITE INDEX                  | 20           |             | PRESENT AGE  |             |              |             | 25           |             | PRESENT HEIGHT |             |              |             | 10.3 M       |             | HEIGHT IN 5 YEARS |             |  |  | 12.3 M |  |
| VOL (m³/ha) | 105 | 70                          | 175          |             | 75           | 157         | 76           | 153         | 77           | 149         | 78             | 146         | 81           | 141         | 85           | 135         | 91                | 129         |  |  |        |  |
| BA (m²/ha)  | 22  | 8.5                         | 31           |             | 9.9          | 28          | 10.3         | 27          | 10.7         | 26          | 11.0           | 25          | 11.7         | 25          | 12.8         | 24          | 14.1              | 23          |  |  |        |  |
| VOL (m³/ha) | 140 | 68                          | 208          |             | 70           | 180         | 71           | 174         | 72           | 168         | 72             | 164         | 75           | 156         | 79           | 146         | 84                | 136         |  |  |        |  |
| BA (m²/ha)  | 29  | 6.9                         | 36           |             | 8.2          | 32          | 8.5          | 30          | 9.0          | 29          | 9.3            | 29          | 10.0         | 27          | 11.1         | 26          | 12.5              | 24          |  |  |        |  |
| VOL (m³/ha) | 175 | 68                          | 243          |             | 68           | 206         | 68           | 198         | 69           | 189         | 69             | 184         | 71           | 173         | 74           | 158         | 79                | 145         |  |  |        |  |
| BA (m²/ha)  | 36  | 5.7                         | 42           |             | 6.9          | 36          | 7.3          | 34          | 7.7          | 33          | 7.9            | 32          | 8.6          | 30          | 9.8          | 28          | 11.2              | 25          |  |  |        |  |
| VOL (m³/ha) | 210 | 70                          | 280          |             | 68           | 234         | 67           | 223         | 67           | 213         | 68             | 206         | 68           | 192         | 71           | 173         | 75                | 155         |  |  |        |  |
| BA (m²/ha)  | 44  | 4.9                         | 48           |             | 6.0          | 41          | 6.3          | 39          | 6.7          | 37          | 6.9            | 36          | 7.5          | 33          | 8.6          | 30          | 10.0              | 27          |  |  |        |  |
|             |     | SITE INDEX                  | 20           |             | PRESENT AGE  |             |              |             | 30           |             | PRESENT HEIGHT |             |              |             | 12.3 M       |             | HEIGHT IN 5 YEARS |             |  |  | 14.3 M |  |
| VOL (m³/ha) | 140 | 70                          | 210          |             | 74           | 184         | 75           | 179         | 77           | 173         | 78             | 170         | 81           | 162         | 86           | 153         | 92                | 144         |  |  |        |  |
| BA (m²/ha)  | 24  | 6.9                         | 31           |             | 8.2          | 28          | 8.6          | 27          | 9.0          | 26          | 9.2            | 25          | 9.9          | 24          | 11.0         | 23          | 12.3              | 22          |  |  |        |  |
| VOL (m³/ha) | 175 | 68                          | 243          |             | 70           | 209         | 71           | 201         | 72           | 193         | 83             | 188         | 75           | 178         | 80           | 164         | 86                | 152         |  |  |        |  |
| BA (m²/ha)  | 30  | 5.8                         | 36           |             | 7.0          | 31          | 7.3          | 30          | 7.7          | 29          | 8.0            | 28          | 8.6          | 27          | 9.7          | 25          | 11.0              | 23          |  |  |        |  |
| VOL (m³/ha) | 210 | 68                          | 278          |             | 68           | 235         | 69           | 225         | 69           | 215         | 70             | 209         | 72           | 195         | 75           | 177         | 81                | 161         |  |  |        |  |
| BA (m²/ha)  | 36  | 5.0                         | 41           |             | 6.1          | 35          | 6.4          | 34          | 6.8          | 32          | 7.0            | 31          | 7.6          | 29          | 8.7          | 27          | 10.0              | 24          |  |  |        |  |
| VOL (m³/ha) | 245 | 69                          | 314          |             | 68           | 262         | 68           | 250         | 68           | 238         | 68             | 230         | 69           | 214         | 72           | 192         | 77                | 171         |  |  |        |  |
| BA (m²/ha)  | 42  | 4.4                         | 47           |             | 5.3          | 39          | 5.6          | 37          | 6.0          | 36          | 6.2            | 34          | 6.8          | 32          | 7.8          | 29          | 9.1               | 26          |  |  |        |  |
| VOL (m³/ha) | 280 | 71                          | 351          |             | 68           | 291         | 68           | 276         | 68           | 262         | 68             | 253         | 68           | 234         | 70           | 207         | 74                | 182         |  |  |        |  |
| BA (m²/ha)  | 48  | 3.9                         | 52           |             | 4.8          | 43          | 5.0          | 41          | 5.3          | 39          | 5.6            | 38          | 6.1          | 35          | 7.1          | 31          | 8.3               | 27          |  |  |        |  |
|             |     | SITE INDEX                  | 20           |             | PRESENT AGE  |             |              |             | 35           |             | PRESENT HEIGHT |             |              |             | 14.3 M       |             | HEIGHT IN 5 YEARS |             |  |  | 16.2 M |  |
| VOL (m³/ha) | 175 | 69                          | 244          |             | 72           | 211         | 74           | 203         | 75           | 196         | 76             | 192         | 79           | 182         | 85           | 169         | 91                | 158         |  |  |        |  |
| BA (m²/ha)  | 26  | 5.8                         | 32           |             | 6.9          | 28          | 7.2          | 27          | 7.6          | 26          | 7.8            | 25          | 8.5          | 24          | 9.5          | 22          | 10.7              | 21          |  |  |        |  |
| VOL (m³/ha) | 210 | 67                          | 277          |             | 69           | 236         | 70           | 226         | 71           | 217         | 72             | 211         | 75           | 198         | 79           | 181         | 86                | 166         |  |  |        |  |
| BA (m²/ha)  | 31  | 5.0                         | 36           |             | 6.0          | 31          | 6.3          | 30          | 6.7          | 29          | 6.9            | 28          | 7.5          | 26          | 8.5          | 24          | 9.7               | 22          |  |  |        |  |
| VOL (m³/ha) | 245 | 67                          | 312          |             | 68           | 262         | 68           | 250         | 69           | 239         | 70             | 232         | 71           | 216         | 75           | 195         | 81                | 176         |  |  |        |  |
| BA (m²/ha)  | 37  | 4.4                         | 41           |             | 5.3          | 34          | 5.6          | 33          | 5.9          | 31          | 6.1            | 30          | 6.7          | 28          | 7.7          | 26          | 8.9               | 23          |  |  |        |  |
| VOL (m³/ha) | 280 | 68                          | 348          |             | 67           | 290         | 67           | 276         | 68           | 262         | 68             | 254         | 69           | 235         | 72           | 209         | 78                | 186         |  |  |        |  |
| BA (m²/ha)  | 42  | 3.9                         | 46           |             | 4.7          | 38          | 5.0          | 36          | 5.3          | 34          | 5.5            | 33          | 6.0          | 31          | 7.0          | 28          | 8.2               | 25          |  |  |        |  |
| VOL (m³/ha) | 315 | 70                          | 385          |             | 67           | 318         | 67           | 302         | 67           | 286         | 67             | 276         | 68           | 254         | 70           | 225         | 75                | 197         |  |  |        |  |
| BA (m²/ha)  | 47  | 3.5                         | 50           |             | 4.3          | 42          | 4.5          | 40          | 4.8          | 37          | 5.0            | 36          | 5.5          | 33          | 6.4          | 30          | 7.5               | 26          |  |  |        |  |
| VOL (m³/ha) | 350 | 72                          | 422          |             | 68           | 347         | 67           | 328         | 67           | 310         | 67             | 299         | 67           | 275         | 69           | 241         | 73                | 209         |  |  |        |  |
| BA (m²/ha)  | 52  | 3.2                         | 55           |             | 3.9          | 45          | 4.1          | 43          | 4.4          | 41          | 4.6            | 39          | 5.0          | 36          | 5.9          | 32          | 7.2               | 28          |  |  |        |  |

TABLE 3 (continued)

|                          | Stand<br>before<br>thinning | Percent thinning |             |              |             |              |             |                |             |              |             |                   |             |              |             |              |             |
|--------------------------|-----------------------------|------------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------------|-------------|
|                          |                             | 0                |             | 20           |             | 25           |             | 30             |             | 33           |             | 40                |             | 50           |             | 60           |             |
|                          |                             | 5-yr<br>grth     | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth   | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth      | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |
|                          | SITE INDEX                  | 20               |             | PRESENT AGE  |             | 40           |             | PRESENT HEIGHT |             | 16.2 M       |             | HEIGHT IN 5 YEARS |             | 18.1 M       |             |              |             |
| VOL (m <sup>3</sup> /ha) | 210                         | 66               | 276         | 70           | 236         | 71           | 227         | 73             | 218         | 74           | 212         | 77                | 200         | 82           | 184         | 89           | 170         |
| BA (m <sup>2</sup> /ha)  | 28                          | 4.8              | 32          | 5.8          | 28          | 6.1          | 27          | 6.4            | 26          | 6.6          | 25          | 7.2               | 24          | 8.1          | 22          | 9.3          | 20          |
| VOL (m <sup>3</sup> /ha) | 245                         | 65               | 310         | 67           | 262         | 68           | 250         | 69             | 239         | 70           | 232         | 73                | 217         | 77           | 197         | 84           | 179         |
| BA (m <sup>2</sup> /ha)  | 32                          | 4.2              | 36          | 5.1          | 31          | 5.4          | 29          | 5.7            | 28          | 5.9          | 27          | 6.4               | 26          | 7.3          | 23          | 8.5          | 21          |
| VOL (m <sup>3</sup> /ha) | 280                         | 66               | 346         | 66           | 289         | 66           | 275         | 67             | 261         | 68           | 253         | 70                | 235         | 74           | 211         | 80           | 189         |
| BA (m <sup>2</sup> /ha)  | 37                          | 3.8              | 40          | 4.6          | 34          | 4.8          | 32          | 5.1            | 31          | 5.3          | 30          | 5.8               | 28          | 6.7          | 25          | 7.8          | 22          |
| VOL (m <sup>3</sup> /ha) | 315                         | 66               | 381         | 65           | 316         | 66           | 300         | 66             | 285         | 66           | 275         | 68                | 254         | 71           | 226         | 77           | 199         |
| BA (m <sup>2</sup> /ha)  | 41                          | 3.4              | 45          | 4.1          | 37          | 4.4          | 35          | 4.7            | 33          | 4.8          | 32          | 5.3               | 30          | 6.1          | 27          | 7.2          | 23          |
| VOL (m <sup>3</sup> /ha) | 350                         | 68               | 418         | 65           | 344         | 65           | 326         | 65             | 309         | 66           | 298         | 66                | 274         | 69           | 241         | 74           | 210         |
| BA (m <sup>2</sup> /ha)  | 46                          | 3.1              | 49          | 3.8          | 40          | 4.0          | 38          | 4.3            | 36          | 4.4          | 35          | 4.9               | 32          | 5.7          | 28          | 6.7          | 25          |
| VOL (m <sup>3</sup> /ha) | 385                         | 70               | 455         | 66           | 373         | 66           | 353         | 65             | 333         | 65           | 321         | 66                | 294         | 68           | 257         | 72           | 222         |
| BA (m <sup>2</sup> /ha)  | 50                          | 2.8              | 53          | 3.5          | 44          | 3.7          | 41          | 3.9            | 39          | 4.1          | 38          | 4.5               | 34          | 5.2          | 30          | 6.3          | 26          |
| VOL (m <sup>3</sup> /ha) | 420                         | 72               | 492         | 67           | 402         | 66           | 380         | 66             | 358         | 66           | 345         | 65                | 315         | 66           | 273         | 70           | 234         |
| BA (m <sup>2</sup> /ha)  | 55                          | 2.6              | 57          | 3.2          | 47          | 3.4          | 44          | 3.6            | 42          | 3.8          | 40          | 4.2               | 37          | 4.9          | 32          | 5.9          | 28          |
|                          | SITE INDEX                  | 20               |             | PRESENT AGE  |             | 45           |             | PRESENT HEIGHT |             | 18.1 M       |             | HEIGHT IN 5 YEARS |             | 20.0 M       |             |              |             |
| VOL (m <sup>3</sup> /ha) | 245                         | 63               | 308         | 66           | 261         | 67           | 249         | 68             | 238         | 69           | 231         | 72                | 217         | 77           | 197         | 85           | 179         |
| BA (m <sup>2</sup> /ha)  | 29                          | 3.9              | 33          | 4.8          | 28          | 5.0          | 26          | 5.3            | 25          | 5.5          | 25          | 6.0               | 23          | 6.8          | 21          | 7.9          | 19          |
| VOL (m <sup>3</sup> /ha) | 280                         | 63               | 343         | 64           | 287         | 65           | 273         | 66             | 260         | 67           | 252         | 69                | 234         | 73           | 210         | 80           | 189         |
| BA (m <sup>2</sup> /ha)  | 33                          | 3.5              | 36          | 4.3          | 30          | 4.5          | 29          | 4.8            | 29          | 5.0          | 27          | 5.4               | 25          | 6.2          | 22          | 7.3          | 20          |
| VOL (m <sup>3</sup> /ha) | 315                         | 63               | 378         | 63           | 314         | 63           | 298         | 64             | 283         | 65           | 274         | 66                | 253         | 70           | 225         | 77           | 199         |
| BA (m <sup>2</sup> /ha)  | 37                          | 3.2              | 40          | 3.9          | 33          | 4.1          | 32          | 4.3            | 30          | 4.5          | 29          | 4.9               | 27          | 5.7          | 24          | 6.7          | 21          |
| VOL (m <sup>3</sup> /ha) | 350                         | 64               | 414         | 63           | 341         | 63           | 324         | 63             | 306         | 63           | 296         | 65                | 272         | 68           | 240         | 74           | 210         |
| BA (m <sup>2</sup> /ha)  | 41                          | 2.9              | 44          | 3.5          | 36          | 3.7          | 34          | 4.0            | 32          | 4.1          | 31          | 4.5               | 29          | 5.3          | 25          | 6.2          | 22          |
| VOL (m <sup>3</sup> /ha) | 385                         | 65               | 450         | 63           | 370         | 63           | 350         | 63             | 330         | 63           | 319         | 64                | 292         | 66           | 256         | 71           | 221         |
| BA (m <sup>2</sup> /ha)  | 45                          | 2.6              | 48          | 3.2          | 39          | 3.4          | 37          | 3.7            | 35          | 3.8          | 34          | 4.2               | 31          | 4.9          | 27          | 5.8          | 24          |
| VOL (m <sup>3</sup> /ha) | 420                         | 67               | 487         | 63           | 398         | 63           | 376         | 63             | 355         | 63           | 342         | 63                | 313         | 65           | 272         | 69           | 233         |
| BA (m <sup>2</sup> /ha)  | 49                          | 2.4              | 51          | 3.0          | 42          | 3.2          | 40          | 3.4            | 38          | 3.5          | 36          | 3.9               | 33          | 4.5          | 29          | 5.5          | 25          |
| VOL (m <sup>3</sup> /ha) | 455                         | 69               | 524         | 64           | 427         | 63           | 403         | 63             | 380         | 63           | 366         | 63                | 333         | 64           | 288         | 67           | 246         |
| BA (m <sup>2</sup> /ha)  | 53                          | 2.2              | 55          | 2.8          | 45          | 2.9          | 43          | 3.1            | 40          | 3.3          | 39          | 3.6               | 35          | 4.2          | 31          | 5.1          | 26          |
| VOL (m <sup>3</sup> /ha) | 490                         | 71               | 561         | 65           | 456         | 64           | 430         | 63             | 405         | 63           | 389         | 63                | 354         | 63           | 305         | 66           | 258         |
| BA (m <sup>2</sup> /ha)  | 57                          | 2.1              | 59          | 2.6          | 48          | 2.8          | 46          | 2.9            | 43          | 3.1          | 41          | 3.4               | 38          | 4.0          | 32          | 4.8          | 27          |

TABLE 3 (continued)

|             |                             | Percent thinning |              |              |              |              |              |                |              |              |              |                   |              |              |              |              |              |
|-------------|-----------------------------|------------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|--------------|--------------|-------------------|--------------|--------------|--------------|--------------|--------------|
|             | Stand<br>before<br>thinning | 0                |              | 20           |              | 25           |              | 30             |              | 33           |              | 40                |              | 50           |              | 60           |              |
|             |                             | 5-yr<br>grth     | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth   | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth      | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld |
|             | SITE INDEX                  | 20               |              | PRESENT AGE  |              | 50           |              | PRESENT HEIGHT |              | 20.0 M       |              | HEIGHT IN 5 YEARS |              | 21.9 M       |              |              |              |
| VOL (m³/ha) | 280                         | 58               | 338          | 60           | 283          | 61           | 270          | 62             | 256          | 63           | 249          | 65                | 231          | 70           | 207          | 77           | 186          |
| BA (m²/ha)  | 30                          | 3.1              | 33           | 3.8          | 27           | 4.0          | 26           | 4.3            | 25           | 4.4          | 24           | 4.8               | 22           | 5.5          | 20           | 6.5          | 18           |
| VOL (m³/ha) | 315                         | 58               | 373          | 59           | 310          | 60           | 294          | 60             | 279          | 61           | 270          | 63                | 250          | 67           | 222          | 73           | 196          |
| BA (m²/ha)  | 33                          | 2.8              | 36           | 3.4          | 30           | 3.6          | 29           | 3.9            | 27           | 4.0          | 26           | 4.4               | 24           | 5.1          | 21           | 6.0          | 19           |
| VOL (m³/ha) | 350                         | 59               | 409          | 58           | 337          | 59           | 320          | 59             | 302          | 60           | 292          | 61                | 269          | 65           | 237          | 70           | 207          |
| BA (m²/ha)  | 37                          | 2.5              | 40           | 3.1          | 33           | 3.3          | 31           | 3.5            | 29           | 3.7          | 28           | 4.0               | 26           | 4.7          | 23           | 5.6          | 20           |
| VOL (m³/ha) | 385                         | 60               | 445          | 58           | 365          | 58           | 346          | 59             | 326          | 59           | 315          | 60                | 288          | 63           | 252          | 68           | 218          |
| BA (m²/ha)  | 41                          | 2.3              | 43           | 2.9          | 35           | 3.0          | 33           | 3.2            | 32           | 3.4          | 30           | 3.7               | 28           | 4.3          | 24           | 5.2          | 21           |
| VOL (m³/ha) | 420                         | 61               | 481          | 59           | 394          | 58           | 372          | 58             | 351          | 58           | 338          | 59                | 309          | 61           | 268          | 66           | 230          |
| BA (m²/ha)  | 44                          | 2.2              | 47           | 2.7          | 38           | 2.7          | 36           | 3.0            | 34           | 3.1          | 33           | 3.4               | 30           | 4.0          | 26           | 4.9          | 22           |
| VOL (m³/ha) | 455                         | 63               | 518          | 59           | 422          | 59           | 399          | 58             | 375          | 58           | 361          | 59                | 329          | 60           | 285          | 64           | 242          |
| BA (m²/ha)  | 48                          | 2.0              | 50           | 2.5          | 41           | 2.6          | 39           | 2.8            | 36           | 2.9          | 35           | 3.2               | 32           | 3.8          | 28           | 4.6          | 23           |
| VOL (m³/ha) | 490                         | 65               | 555          | 60           | 451          | 59           | 425          | 59             | 400          | 59           | 385          | 58                | 350          | 59           | 301          | 62           | 255          |
| BA (m²/ha)  | 52                          | 1.9              | 54           | 2.3          | 44           | 2.4          | 41           | 2.6            | 39           | 2.7          | 37           | 3.0               | 34           | 3.5          | 29           | 4.3          | 25           |
| VOL (m³/ha) | 525                         | 67               | 592          | 61           | 480          | 60           | 453          | 59             | 425          | 59           | 409          | 58                | 371          | 59           | 318          | 61           | 268          |
| BA (m²/ha)  | 55                          | 1.7              | 57           | 2.2          | 46           | 2.3          | 44           | 2.4            | 41           | 2.6          | 40           | 2.8               | 36           | 3.3          | 31           | 4.1          | 26           |
| VOL (m³/ha) | 560                         | 69               | 629          | 63           | 509          | 61           | 480          | 60             | 450          | 60           | 433          | 59                | 392          | 58           | 335          | 60           | 281          |
| BA (m²/ha)  | 59                          | 1.6              | 61           | 2.0          | 49           | 2.2          | 46           | 2.3            | 44           | 2.4          | 42           | 2.7               | 38           | 3.1          | 32           | 3.8          | 27           |
|             | SITE INDEX                  | 20               |              | PRESENT AGE  |              | 55           |              | PRESENT HEIGHT |              | 21.9 M       |              | HEIGHT IN 5 YEARS |              | 23.7 M       |              |              |              |
| VOL (m³/ha) | 280                         | 52               | 332          | 54           | 277          | 55           | 263          | 56             | 250          | 57           | 242          | 59                | 224          | 63           | 200          | 70           | 178          |
| BA (m²/ha)  | 27                          | 2.6              | 30           | 3.1          | 25           | 3.3          | 23           | 3.5            | 22           | 3.6          | 22           | 4.0               | 20           | 4.6          | 18           | 5.4          | 16           |
| VOL (m³/ha) | 315                         | 52               | 367          | 53           | 304          | 53           | 288          | 54             | 273          | 55           | 264          | 56                | 243          | 60           | 215          | 66           | 189          |
| BA (m²/ha)  | 30                          | 2.3              | 33           | 2.8          | 27           | 3.0          | 26           | 3.2            | 24           | 3.3          | 24           | 3.6               | 22           | 4.2          | 19           | 5.0          | 17           |
| VOL (m³/ha) | 350                         | 53               | 403          | 52           | 331          | 53           | 314          | 53             | 296          | 53           | 286          | 55                | 262          | 58           | 230          | 63           | 200          |
| BA (m²/ha)  | 34                          | 2.1              | 36           | 2.6          | 30           | 2.7          | 28           | 2.9            | 26           | 3.0          | 26           | 3.3               | 23           | 3.9          | 21           | 4.6          | 18           |
| VOL (m³/ha) | 385                         | 54               | 439          | 52           | 359          | 52           | 340          | 52             | 320          | 53           | 309          | 54                | 282          | 56           | 246          | 61           | 211          |
| BA (m²/ha)  | 37                          | 1.9              | 39           | 2.4          | 32           | 2.5          | 30           | 2.7            | 29           | 2.8          | 28           | 3.1               | 25           | 3.6          | 22           | 4.3          | 19           |
| VOL (m³/ha) | 420                         | 55               | 475          | 53           | 387          | 52           | 366          | 52             | 344          | 52           | 332          | 53                | 302          | 55           | 262          | 59           | 223          |
| BA (m²/ha)  | 41                          | 1.8              | 42           | 2.2          | 35           | 2.3          | 33           | 2.5            | 31           | 2.6          | 30           | 2.8               | 27           | 3.3          | 23           | 4.0          | 20           |
| VOL (m³/ha) | 455                         | 57               | 512          | 53           | 416          | 53           | 392          | 52             | 369          | 52           | 355          | 52                | 323          | 54           | 278          | 57           | 236          |
| BA (m²/ha)  | 44                          | 1.6              | 46           | 2.0          | 37           | 2.2          | 35           | 2.3            | 33           | 2.4          | 32           | 2.6               | 29           | 3.1          | 25           | 3.8          | 21           |
| VOL (m³/ha) | 490                         | 58               | 548          | 54           | 445          | 53           | 419          | 53             | 394          | 52           | 379          | 52                | 344          | 53           | 295          | 56           | 248          |
| BA (m²/ha)  | 47                          | 1.5              | 49           | 1.9          | 40           | 2.0          | 37           | 2.1            | 35           | 2.2          | 34           | 2.5               | 31           | 2.9          | 26           | 3.5          | 22           |
| VOL (m³/ha) | 525                         | 60               | 585          | 55           | 474          | 54           | 446          | 53             | 419          | 53           | 403          | 52                | 365          | 53           | 312          | 55           | 261          |
| BA (m²/ha)  | 51                          | 1.4              | 52           | 1.8          | 42           | 1.9          | 40           | 2.0            | 37           | 2.1          | 36           | 2.3               | 33           | 2.7          | 28           | 3.3          | 23           |
| VOL (m³/ha) | 560                         | 62               | 622          | 56           | 503          | 55           | 473          | 54             | 444          | 53           | 427          | 53                | 386          | 52           | 329          | 54           | 274          |
| BA (m²/ha)  | 54                          | 1.3              | 55           | 1.7          | 45           | 1.8          | 42           | 1.9            | 40           | 2.0          | 38           | 2.2               | 34           | 2.6          | 29           | 3.2          | 24           |
| VOL (m³/ha) | 595                         | 64               | 659          | 57           | 532          | 56           | 501          | 55             | 470          | 54           | 451          | 53                | 408          | 52           | 347          | 53           | 288          |
| BA (m²/ha)  | 57                          | 1.3              | 59           | 1.6          | 47           | 1.7          | 45           | 1.8            | 42           | 1.9          | 40           | 2.1               | 36           | 2.5          | 31           | 3.0          | 26           |

TABLE 3 (continued)

| Percent thinning            |              |              |              |              |              |              |              |              |              |              |              |                |              |              |              |              |     |                   |  |  |  |        |  |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|--------------|--------------|--------------|-----|-------------------|--|--|--|--------|--|
| Stand<br>before<br>thinning | 0            |              | 20           |              | 25           |              | 30           |              | 33           |              | 40           |                | 50           |              | 60           |              |     |                   |  |  |  |        |  |
|                             | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld   | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld |     |                   |  |  |  |        |  |
| SITE INDEX                  |              | 20           |              | PRESENT AGE  |              |              |              | 60           |              |              |              | PRESENT HEIGHT |              |              |              | 23.7 M       |     | HEIGHT IN 5 YEARS |  |  |  | 25.5 M |  |
| VOL (m³/ha)                 | 315          | 44           | 359          | 43           | 294          | 44           | 278          | 44           | 263          | 45           | 254          | 46             | 232          | 49           | 203          | 53           | 176 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 28           | 1.6          | 30           | 2.0          | 24           | 2.1          | 23           | 2.3          | 22           | 2.4          | 21           | 2.6            | 19           | 3.0          | 17           | 3.6          | 15  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 350          | 45           | 395          | 43           | 322          | 43           | 304          | 44           | 287          | 44           | 276          | 45             | 252          | 47           | 219          | 51           | 187 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 31           | 1.5          | 33           | 1.8          | 27           | 1.9          | 25           | 2.1          | 24           | 2.2          | 23           | 2.4            | 21           | 2.8          | 18           | 3.4          | 16  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 385          | 46           | 431          | 44           | 350          | 43           | 331          | 43           | 311          | 43           | 299          | 44             | 272          | 46           | 235          | 49           | 199 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 34           | 1.4          | 36           | 1.7          | 29           | 1.8          | 27           | 1.9          | 26           | 2.0          | 25           | 2.2            | 23           | 2.6          | 19           | 3.1          | 17  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 420          | 47           | 467          | 44           | 379          | 44           | 357          | 43           | 336          | 43           | 323          | 43             | 293          | 45           | 252          | 48           | 212 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 37           | 1.2          | 39           | 1.5          | 31           | 1.6          | 30           | 1.8          | 28           | 1.8          | 27           | 2.0            | 24           | 2.4          | 21           | 2.9          | 18  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 455          | 49           | 504          | 45           | 408          | 44           | 384          | 44           | 361          | 44           | 346          | 43             | 314          | 44           | 268          | 46           | 225 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 41           | 1.2          | 42           | 1.4          | 34           | 1.5          | 32           | 1.6          | 30           | 1.7          | 29           | 1.9            | 26           | 2.2          | 22           | 2.7          | 19  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 490          | 50           | 540          | 46           | 437          | 45           | 411          | 44           | 386          | 44           | 370          | 43             | 335          | 44           | 286          | 45           | 238 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 44           | 1.1          | 45           | 1.3          | 36           | 1.4          | 34           | 1.5          | 32           | 1.6          | 31           | 1.8            | 28           | 2.1          | 24           | 2.5          | 20  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 525          | 52           | 577          | 47           | 466          | 46           | 438          | 45           | 411          | 45           | 394          | 44             | 356          | 43           | 303          | 45           | 251 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 47           | 1.0          | 48           | 1.3          | 39           | 1.3          | 36           | 1.4          | 34           | 1.5          | 33           | 1.6            | 29           | 2.0          | 25           | 2.4          | 21  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 560          | 54           | 614          | 48           | 495          | 47           | 466          | 46           | 436          | 45           | 419          | 44             | 378          | 43           | 320          | 44           | 265 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 50           | 0.9          | 51           | 1.2          | 41           | 1.3          | 39           | 1.3          | 36           | 1.4          | 35           | 1.6            | 31           | 1.8          | 27           | 2.3          | 22  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 595          | 56           | 651          | 50           | 524          | 48           | 493          | 47           | 462          | 46           | 443          | 45             | 399          | 43           | 338          | 44           | 278 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 53           | 0.9          | 54           | 1.1          | 43           | 1.2          | 41           | 1.3          | 38           | 1.3          | 37           | 1.5            | 33           | 1.7          | 28           | 2.1          | 23  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 630          | 58           | 688          | 51           | 554          | 49           | 520          | 48           | 487          | 47           | 467          | 45             | 421          | 44           | 356          | 44           | 292 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 56           | 0.8          | 57           | 1.1          | 46           | 1.1          | 43           | 1.2          | 40           | 1.2          | 39           | 1.4            | 35           | 1.7          | 29           | 2.0          | 24  |                   |  |  |  |        |  |
| VOL (m³/ha)                 | 665          | 60           | 725          | 52           | 583          | 51           | 548          | 49           | 513          | 48           | 492          | 46             | 443          | 44           | 374          | 43           | 306 |                   |  |  |  |        |  |
| BA (m²/ha)                  | 59           | 0.8          | 60           | 1.0          | 48           | 1.1          | 45           | 1.1          | 42           | 1.2          | 41           | 1.3            | 37           | 1.6          | 31           | 1.9          | 25  |                   |  |  |  |        |  |



Skidding red pine tree lengths from Larose Forest, Prescott and Russell County. (W. Masters, 1959)

TABLE 3 (continued)

| Percent thinning |                             |              |             |              |             |              |             |              |             |                |             |              |             |              |             |                   |             |  |  |        |  |
|------------------|-----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|--------------|-------------|-------------------|-------------|--|--|--------|--|
|                  | Stand<br>before<br>thinning | 0            |             | 20           |             | 25           |             | 30           |             | 33             |             | 40           |             | 50           |             | 60                |             |  |  |        |  |
|                  |                             | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth   | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth      | 5-yr<br>yld |  |  |        |  |
| SITE INDEX       |                             | 22           |             | PRESENT AGE  |             |              |             | 20           |             | PRESENT HEIGHT |             |              |             | 9.1 M        |             | HEIGHT IN 5 YEARS |             |  |  | 11.4 M |  |
| VOL (m³/ha)      | 70                          | 79           | 149         | 83           | 138         | 85           | 136         | 86           | 133         | 87             | 132         | 90           | 129         | 94           | 126         | 98                | 122         |  |  |        |  |
| BA (m²/ha)       | 17                          | 11.3         | 28          | 12.8         | 26          | 13.2         | 26          | 13.7         | 25          | 14.0           | 25          | 14.7         | 25          | 15.7         | 24          | 16.9              | 23          |  |  |        |  |
| VOL (m³/ha)      | 105                         | 73           | 178         | 76           | 159         | 77           | 154         | 78           | 150         | 79             | 148         | 81           | 142         | 85           | 135         | 90                | 129         |  |  |        |  |
| BA (m²/ha)       | 25                          | 8.7          | 34          | 10.2         | 30          | 10.7         | 29          | 11.1         | 29          | 11.4           | 28          | 12.2         | 27          | 13.4         | 26          | 14.8              | 25          |  |  |        |  |
| VOL (m³/ha)      | 140                         | 73           | 213         | 73           | 184         | 74           | 177         | 74           | 170         | 75             | 167         | 76           | 158         | 80           | 147         | 84                | 137         |  |  |        |  |
| BA (m²/ha)       | 33                          | 7.0          | 40          | 8.4          | 35          | 8.8          | 34          | 9.3          | 32          | 9.6            | 32          | 10.3         | 30          | 11.6         | 28          | 13.1              | 26          |  |  |        |  |
| SITE INDEX       |                             | 22           |             | PRESENT AGE  |             |              |             | 25           |             | PRESENT HEIGHT |             |              |             | 11.4 M       |             | HEIGHT IN 5 YEARS |             |  |  | 13.5 M |  |
| VOL (m³/ha)      | 105                         | 78           | 183         | 83           | 166         | 85           | 162         | 87           | 158         | 88             | 156         | 91           | 151         | 95           | 145         | 101               | 140         |  |  |        |  |
| BA (m²/ha)       | 20                          | 9.0          | 29          | 10.4         | 26          | 10.8         | 26          | 11.2         | 25          | 11.5           | 25          | 12.2         | 24          | 13.3         | 23          | 14.5              | 22          |  |  |        |  |
| VOL (m³/ha)      | 140                         | 75           | 215         | 78           | 188         | 79           | 182         | 80           | 176         | 81             | 173         | 84           | 165         | 88           | 155         | 94                | 146         |  |  |        |  |
| BA (m²/ha)       | 27                          | 7.3          | 34          | 8.6          | 30          | 9.0          | 29          | 9.5          | 28          | 9.8            | 27          | 10.5         | 26          | 11.6         | 25          | 13.0              | 23          |  |  |        |  |
| VOL (m³/ha)      | 175                         | 74           | 249         | 75           | 213         | 75           | 205         | 76           | 197         | 77             | 192         | 79           | 181         | 83           | 167         | 88                | 155         |  |  |        |  |
| BA (m²/ha)       | 33                          | 6.1          | 39          | 7.4          | 34          | 7.7          | 32          | 8.1          | 31          | 8.4            | 30          | 9.1          | 29          | 10.3         | 27          | 11.7              | 25          |  |  |        |  |
| VOL (m³/ha)      | 210                         | 75           | 285         | 74           | 241         | 74           | 230         | 74           | 219         | 75             | 213         | 76           | 200         | 79           | 181         | 84                | 164         |  |  |        |  |
| BA (m²/ha)       | 40                          | 5.3          | 45          | 6.4          | 38          | 6.7          | 36          | 7.1          | 35          | 7.4            | 34          | 8.0          | 32          | 9.1          | 29          | 10.5              | 26          |  |  |        |  |
| SITE INDEX       |                             | 22           |             | PRESENT AGE  |             |              |             | 30           |             | PRESENT HEIGHT |             |              |             | 13.5 M       |             | HEIGHT IN 5 YEARS |             |  |  | 15.7 M |  |
| VOL (m³/ha)      | 140                         | 77           | 217         | 82           | 193         | 84           | 187         | 86           | 182         | 87             | 179         | 90           | 172         | 96           | 163         | 103               | 155         |  |  |        |  |
| BA (m²/ha)       | 22                          | 7.3          | 30          | 8.6          | 26          | 9.0          | 26          | 9.4          | 25          | 9.7            | 24          | 10.3         | 23          | 11.4         | 22          | 12.6              | 21          |  |  |        |  |
| VOL (m³/ha)      | 175                         | 74           | 249         | 78           | 216         | 79           | 209         | 80           | 201         | 81             | 197         | 84           | 187         | 89           | 174         | 96                | 162         |  |  |        |  |
| BA (m²/ha)       | 28                          | 6.2          | 34          | 7.4          | 29          | 7.7          | 28          | 8.1          | 27          | 8.4            | 27          | 9.0          | 25          | 10.1         | 24          | 11.4              | 22          |  |  |        |  |
| VOL (m³/ha)      | 210                         | 74           | 284         | 75           | 242         | 76           | 232         | 77           | 222         | 78             | 216         | 80           | 203         | 84           | 186         | 91                | 171         |  |  |        |  |
| BA (m²/ha)       | 33                          | 5.3          | 38          | 6.4          | 33          | 6.8          | 31          | 7.1          | 30          | 7.4            | 29          | 8.0          | 28          | 9.1          | 25          | 10.4              | 23          |  |  |        |  |
| VOL (m³/ha)      | 245                         | 74           | 319         | 74           | 269         | 74           | 256         | 75           | 244         | 75             | 237         | 77           | 221         | 81           | 200         | 86                | 181         |  |  |        |  |
| BA (m²/ha)       | 39                          | 4.7          | 43          | 5.7          | 36          | 6.0          | 35          | 6.3          | 33          | 6.6            | 32          | 7.2          | 30          | 8.2          | 27          | 9.5               | 25          |  |  |        |  |
| VOL (m³/ha)      | 280                         | 76           | 356         | 74           | 297         | 74           | 282         | 74           | 268         | 74             | 260         | 75           | 241         | 78           | 215         | 83                | 191         |  |  |        |  |
| BA (m²/ha)       | 44                          | 4.2          | 48          | 5.1          | 40          | 5.4          | 38          | 5.7          | 36          | 5.9            | 35          | 6.5          | 33          | 7.4          | 29          | 8.7               | 26          |  |  |        |  |
| SITE INDEX       |                             | 22           |             | PRESENT AGE  |             |              |             | 35           |             | PRESENT HEIGHT |             |              |             | 15.7 M       |             | HEIGHT IN 5 YEARS |             |  |  | 17.8 M |  |
| VOL (m³/ha)      | 175                         | 75           | 250         | 80           | 219         | 82           | 211         | 84           | 204         | 85             | 200         | 88           | 191         | 94           | 179         | 102               | 168         |  |  |        |  |
| BA (m²/ha)       | 24                          | 6.1          | 30          | 7.2          | 26          | 7.5          | 25          | 7.9          | 24          | 8.2            | 24          | 8.8          | 23          | 9.7          | 21          | 10.9              | 20          |  |  |        |  |
| VOL (m³/ha)      | 210                         | 73           | 283         | 76           | 243         | 77           | 233         | 79           | 224         | 80             | 219         | 83           | 207         | 88           | 190         | 96                | 176         |  |  |        |  |
| BA (m²/ha)       | 28                          | 5.2          | 34          | 6.3          | 29          | 6.6          | 28          | 7.0          | 27          | 7.2            | 26          | 7.8          | 25          | 8.8          | 23          | 10.0              | 21          |  |  |        |  |
| VOL (m³/ha)      | 245                         | 73           | 318         | 74           | 269         | 75           | 257         | 76           | 246         | 77             | 239         | 79           | 224         | 84           | 203         | 91                | 185         |  |  |        |  |
| BA (m²/ha)       | 33                          | 4.6          | 38          | 5.6          | 32          | 5.9          | 31          | 6.2          | 29          | 6.4            | 29          | 7.0          | 27          | 8.0          | 24          | 9.2               | 22          |  |  |        |  |
| VOL (m³/ha)      | 280                         | 73           | 353         | 73           | 296         | 73           | 282         | 74           | 268         | 75             | 260         | 76           | 242         | 80           | 217         | 87                | 195         |  |  |        |  |
| BA (m²/ha)       | 38                          | 4.1          | 42          | 5.0          | 35          | 5.3          | 34          | 5.6          | 32          | 5.8            | 31          | 6.3          | 29          | 7.3          | 26          | 8.5               | 23          |  |  |        |  |
| VOL (m³/ha)      | 315                         | 74           | 389         | 73           | 323         | 73           | 307         | 73           | 292         | 73             | 282         | 74           | 261         | 78           | 232         | 83                | 206         |  |  |        |  |
| BA (m²/ha)       | 43                          | 3.7          | 46          | 4.5          | 38          | 4.8          | 37          | 5.1          | 35          | 5.3            | 34          | 5.8          | 31          | 6.7          | 28          | 7.8               | 25          |  |  |        |  |
| VOL (m³/ha)      | 350                         | 76           | 426         | 73           | 352         | 73           | 334         | 73           | 316         | 73             | 305         | 73           | 281         | 76           | 248         | 80                | 217         |  |  |        |  |
| BA (m²/ha)       | 47                          | 3.4          | 51          | 4.1          | 42          | 4.4          | 40          | 4.6          | 38          | 4.8            | 36          | 5.3          | 33          | 6.2          | 30          | 7.3               | 26          |  |  |        |  |
| VOL (m³/ha)      | 385                         | 79           | 464         | 74           | 381         | 73           | 360         | 73           | 340         | 73             | 329         | 73           | 301         | 74           | 264         | 78                | 229         |  |  |        |  |
| BA (m²/ha)       | 52                          | 3.1          | 55          | 3.8          | 45          | 4.0          | 43          | 4.3          | 41          | 4.4            | 39          | 4.9          | 36          | 5.7          | 31          | 6.8               | 27          |  |  |        |  |

TABLE 3 (continued)

|                       |     | Percent thinning |           |             |           |           |           |                |           |           |           |           |           |           |           |                   |           |  |  |        |  |
|-----------------------|-----|------------------|-----------|-------------|-----------|-----------|-----------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------------|-----------|--|--|--------|--|
| Stand before thinning |     | 0                |           | 20          |           | 25        |           | 30             |           | 33        |           | 40        |           | 50        |           | 60                |           |  |  |        |  |
|                       |     | 5-yr grth        | 5-yr y'ld | 5-yr grth   | 5-yr y'ld | 5-yr grth | 5-yr y'ld | 5-yr grth      | 5-yr y'ld | 5-yr grth | 5-yr y'ld | 5-yr grth | 5-yr y'ld | 5-yr grth | 5-yr y'ld | 5-yr grth         | 5-yr y'ld |  |  |        |  |
| SITE INDEX            |     | 22               |           | PRESENT AGE |           |           |           | PRESENT HEIGHT |           |           |           | 17.8 M    |           |           |           | HEIGHT IN 5 YEARS |           |  |  | 19.9 M |  |
| VOL (m³/ha)           | 210 | 72               | 282       | 76          | 243       | 78        | 234       | 80             | 225       | 81        | 220       | 84        | 208       | 90        | 192       | 98                | 179       |  |  |        |  |
| BA (m²/ha)            | 25  | 5.0              | 30        | 6.0         | 26        | 6.3       | 25        | 6.6            | 24        | 6.8       | 23        | 7.4       | 22        | 8.3       | 21        | 9.4               | 19        |  |  |        |  |
| VOL (m³/ha)           | 245 | 71               | 316       | 73          | 268       | 75        | 257       | 76             | 246       | 77        | 239       | 80        | 225       | 85        | 205       | 93                | 187       |  |  |        |  |
| BA (m²/ha)            | 29  | 4.4              | 34        | 5.3         | 29        | 5.6       | 27        | 5.9            | 26        | 6.1       | 25        | 6.6       | 24        | 7.5       | 22        | 8.6               | 20        |  |  |        |  |
| VOL (m³/ha)           | 280 | 70               | 350       | 71          | 294       | 72        | 281       | 73             | 268       | 74        | 260       | 77        | 242       | 81        | 218       | 89                | 197       |  |  |        |  |
| BA (m²/ha)            | 33  | 3.9              | 37        | 4.8         | 31        | 5.0       | 30        | 5.3            | 28        | 5.5       | 28        | 6.0       | 26        | 6.9       | 23        | 8.0               | 21        |  |  |        |  |
| VOL (m³/ha)           | 315 | 71               | 386       | 70          | 321       | 71        | 306       | 72             | 290       | 72        | 281       | 74        | 261       | 78        | 233       | 85                | 207       |  |  |        |  |
| BA (m²/ha)            | 37  | 3.5              | 41        | 4.3         | 34        | 4.6       | 33        | 4.8            | 31        | 5.0       | 30        | 5.5       | 28        | 6.3       | 25        | 7.4               | 22        |  |  |        |  |
| VOL (m³/ha)           | 350 | 72               | 422       | 70          | 349       | 70        | 331       | 71             | 314       | 71        | 304       | 72        | 280       | 76        | 248       | 82                | 218       |  |  |        |  |
| BA (m²/ha)            | 42  | 3.2              | 45        | 3.9         | 37        | 4.2       | 35        | 4.4            | 33        | 4.6       | 32        | 5.0       | 30        | 5.8       | 26        | 6.9               | 23        |  |  |        |  |
| VOL (m³/ha)           | 385 | 73               | 458       | 70          | 377       | 70        | 357       | 70             | 338       | 70        | 326       | 71        | 300       | 74        | 263       | 79                | 229       |  |  |        |  |
| BA (m²/ha)            | 46  | 2.9              | 49        | 3.6         | 40        | 3.8       | 38        | 4.1            | 36        | 4.2       | 35        | 4.7       | 32        | 5.4       | 28        | 6.4               | 24        |  |  |        |  |
| VOL (m³/ha)           | 420 | 75               | 495       | 71          | 406       | 71        | 384       | 70             | 362       | 70        | 350       | 70        | 320       | 72        | 279       | 77                | 241       |  |  |        |  |
| BA (m²/ha)            | 50  | 2.7              | 53        | 3.3         | 43        | 3.5       | 41        | 3.8            | 39        | 3.9       | 37        | 4.3       | 34        | 5.1       | 30        | 6.0               | 26        |  |  |        |  |
| VOL (m³/ha)           | 455 | 78               | 533       | 72          | 435       | 71        | 411       | 71             | 387       | 70        | 373       | 70        | 341       | 71        | 296       | 75                | 253       |  |  |        |  |
| BA (m²/ha)            | 54  | 2.5              | 57        | 3.1         | 46        | 3.3       | 44        | 3.5            | 41        | 3.6       | 40        | 4.0       | 36        | 4.7       | 31        | 5.7               | 27        |  |  |        |  |
| SITE INDEX            |     | 22               |           | PRESENT AGE |           |           |           | PRESENT HEIGHT |           |           |           | 19.9 M    |           |           |           | HEIGHT IN 5 YEARS |           |  |  | 22.0 M |  |
| VOL (m³/ha)           | 280 | 67               | 347       | 69          | 291       | 70        | 278       | 71             | 265       | 72        | 257       | 74        | 240       | 80        | 217       | 87                | 196       |  |  |        |  |
| BA (m²/ha)            | 30  | 3.6              | 33        | 4.3         | 28        | 4.6       | 27        | 4.8            | 26        | 5.0       | 25        | 5.5       | 23        | 6.3       | 21        | 7.3               | 19        |  |  |        |  |
| VOL (m³/ha)           | 315 | 66               | 381       | 67          | 318       | 68        | 303       | 69             | 288       | 70        | 279       | 72        | 258       | 76        | 231       | 83                | 206       |  |  |        |  |
| BA (m²/ha)            | 33  | 3.2              | 37        | 3.9         | 31        | 4.2       | 29        | 4.4            | 28        | 4.6       | 27        | 5.0       | 25        | 5.8       | 22        | 6.7               | 20        |  |  |        |  |
| VOL (m³/ha)           | 350 | 67               | 417       | 67          | 345       | 67        | 328       | 67             | 311       | 68        | 301       | 70        | 277       | 74        | 246       | 80                | 216       |  |  |        |  |
| BA (m²/ha)            | 37  | 2.9              | 40        | 3.6         | 33        | 3.8       | 32        | 4.0            | 30        | 4.2       | 29        | 4.6       | 27        | 5.3       | 24        | 6.3               | 21        |  |  |        |  |
| VOL (m³/ha)           | 385 | 68               | 453       | 66          | 373       | 66        | 354       | 67             | 334       | 67        | 323       | 68        | 297       | 71        | 261       | 77                | 227       |  |  |        |  |
| BA (m²/ha)            | 41  | 2.7              | 44        | 3.3         | 36        | 3.5       | 34        | 3.7            | 32        | 3.9       | 31        | 4.2       | 29        | 4.9       | 25        | 5.9               | 22        |  |  |        |  |
| VOL (m³/ha)           | 420 | 70               | 490       | 67          | 402       | 66        | 380       | 66             | 359       | 67        | 346       | 67        | 317       | 70        | 277       | 75                | 239       |  |  |        |  |
| BA (m²/ha)            | 45  | 2.5              | 47        | 3.0         | 39        | 3.2       | 37        | 3.4            | 34        | 3.6       | 33        | 3.9       | 30        | 4.6       | 27        | 5.5               | 23        |  |  |        |  |
| VOL (m³/ha)           | 455 | 71               | 526       | 67          | 430       | 67        | 407       | 66             | 383       | 66        | 369       | 67        | 337       | 68        | 293       | 73                | 251       |  |  |        |  |
| BA (m²/ha)            | 48  | 2.3              | 51        | 2.8         | 41        | 3.0       | 39        | 3.2            | 37        | 3.3       | 35        | 3.7       | 32        | 4.3       | 28        | 5.2               | 24        |  |  |        |  |
| VOL (m³/ha)           | 490 | 73               | 563       | 68          | 459       | 67        | 433       | 67             | 408       | 67        | 393       | 66        | 358       | 68        | 310       | 71                | 263       |  |  |        |  |
| BA (m²/ha)            | 52  | 2.1              | 54        | 2.6         | 44        | 2.8       | 42        | 3.0            | 39        | 3.1       | 38        | 3.4       | 34        | 4.0       | 30        | 4.9               | 25        |  |  |        |  |
| VOL (m³/ha)           | 525 | 76               | 601       | 70          | 488       | 68        | 461       | 67             | 433       | 67        | 417       | 66        | 379       | 67        | 326       | 70                | 276       |  |  |        |  |
| BA (m²/ha)            | 56  | 2.0              | 58        | 2.5         | 47        | 2.6       | 44        | 2.8            | 42        | 2.9       | 40        | 3.2       | 36        | 3.8       | 31        | 4.6               | 27        |  |  |        |  |
| VOL (m³/ha)           | 560 | 78               | 638       | 71          | 518       | 70        | 488       | 68             | 459       | 68        | 441       | 67        | 400       | 67        | 344       | 69                | 289       |  |  |        |  |
| BA (m²/ha)            | 59  | 1.9              | 61        | 2.3         | 50        | 2.5       | 47        | 2.6            | 44        | 2.8       | 42        | 3.1       | 38        | 3.6       | 33        | 4.4               | 28        |  |  |        |  |

TABLE 3 (continued)

|             |                             | Percent thinning |             |              |             |              |             |              |                |              |             |              |             |                   |             |              |             |        |
|-------------|-----------------------------|------------------|-------------|--------------|-------------|--------------|-------------|--------------|----------------|--------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------|
|             | Stand<br>before<br>thinning | 0                |             | 20           |             | 25           |             | 30           |                | 33           |             | 40           |             | 50                |             | 60           |             |        |
|             |                             | 5-yr<br>grth     | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld    | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth      | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |        |
|             | SITE INDEX                  | 22               |             | PRESENT AGE  |             |              |             | 50           | PRESENT HEIGHT |              |             |              | 22.0 M      | HEIGHT IN 5 YEARS |             |              |             | 24.0 M |
| VOL (m³/ha) | 315                         | 61               | 376         | 62           | 312         | 62           | 297         | 63           | 282            | 64           | 273         | 66           | 253         | 71                | 225         | 78           | 200         |        |
| BA (m²/ha)  | 30                          | 2.7              | 33          | 3.4          | 27          | 3.6          | 26          | 3.8          | 25             | 3.9          | 24          | 4.3          | 22          | 4.9               | 20          | 5.8          | 18          |        |
| VOL (m³/ha) | 350                         | 61               | 411         | 61           | 340         | 61           | 322         | 62           | 305            | 63           | 295         | 64           | 272         | 68                | 240         | 74           | 211         |        |
| BA (m²/ha)  | 34                          | 2.5              | 36          | 3.1          | 30          | 3.2          | 28          | 3.4          | 27             | 3.6          | 26          | 3.9          | 24          | 4.6               | 21          | 5.4          | 19          |        |
| VOL (m³/ha) | 385                         | 62               | 447         | 61           | 367         | 61           | 348         | 61           | 329            | 62           | 317         | 63           | 291         | 66                | 255         | 72           | 222         |        |
| BA (m²/ha)  | 37                          | 2.3              | 39          | 2.8          | 32          | 3.0          | 31          | 3.2          | 29             | 3.3          | 28          | 3.6          | 26          | 4.2               | 22          | 5.0          | 20          |        |
| VOL (m³/ha) | 420                         | 63               | 483         | 61           | 396         | 61           | 374         | 61           | 353            | 61           | 340         | 62           | 311         | 64                | 271         | 69           | 234         |        |
| BA (m²/ha)  | 40                          | 2.1              | 42          | 2.6          | 35          | 2.8          | 33          | 2.9          | 31             | 3.1          | 30          | 3.4          | 27          | 3.9               | 24          | 4.7          | 21          |        |
| VOL (m³/ha) | 455                         | 65               | 520         | 61           | 424         | 61           | 401         | 61           | 377            | 61           | 364         | 61           | 332         | 63                | 288         | 67           | 246         |        |
| BA (m²/ha)  | 44                          | 2.0              | 46          | 2.4          | 37          | 2.6          | 35          | 2.7          | 33             | 2.8          | 32          | 3.1          | 29          | 3.7               | 25          | 4.4          | 22          |        |
| VOL (m³/ha) | 490                         | 66               | 556         | 62           | 453         | 61           | 427         | 61           | 402            | 61           | 387         | 61           | 352         | 62                | 304         | 66           | 258         |        |
| BA (m²/ha)  | 47                          | 1.8              | 49          | 2.3          | 40          | 2.4          | 38          | 2.6          | 35             | 2.7          | 34          | 2.9          | 31          | 3.5               | 27          | 4.2          | 23          |        |
| VOL (m³/ha) | 525                         | 68               | 593         | 63           | 482         | 62           | 454         | 61           | 427            | 61           | 411         | 61           | 373         | 61                | 321         | 64           | 271         |        |
| BA (m²/ha)  | 50                          | 1.7              | 52          | 2.1          | 42          | 2.2          | 40          | 2.4          | 38             | 2.5          | 36          | 2.8          | 33          | 3.3               | 28          | 4.0          | 24          |        |
| VOL (m³/ha) | 560                         | 70               | 630         | 64           | 511         | 63           | 482         | 62           | 452            | 62           | 435         | 61           | 394         | 61                | 338         | 63           | 284         |        |
| BA (m²/ha)  | 54                          | 1.6              | 55          | 2.0          | 45          | 2.1          | 42          | 2.3          | 40             | 2.4          | 38          | 2.6          | 35          | 3.1               | 30          | 3.7          | 25          |        |
| VOL (m³/ha) | 595                         | 73               | 668         | 66           | 540         | 64           | 509         | 63           | 478            | 62           | 459         | 61           | 416         | 61                | 355         | 62           | 297         |        |
| BA (m²/ha)  | 57                          | 1.5              | 59          | 1.9          | 47          | 2.0          | 45          | 2.1          | 42             | 2.2          | 40          | 2.5          | 37          | 2.9               | 31          | 3.6          | 26          |        |
| VOL (m³/ha) | 630                         | 75               | 705         | 67           | 570         | 65           | 536         | 64           | 503            | 63           | 483         | 62           | 437         | 61                | 373         | 62           | 310         |        |
| BA (m²/ha)  | 60                          | 1.4              | 62          | 1.8          | 50          | 1.9          | 47          | 2.0          | 44             | 2.1          | 42          | 2.3          | 38          | 2.8               | 33          | 3.4          | 27          |        |
|             | SITE INDEX                  | 22               |             | PRESENT AGE  |             |              |             | 55           | PRESENT HEIGHT |              |             |              | 24.0 M      | HEIGHT IN 5 YEARS |             |              |             | 26.1 M |
| VOL (m³/ha) | 350                         | 53               | 403         | 52           | 331         | 53           | 314         | 53           | 296            | 54           | 286         | 55           | 262         | 58                | 230         | 63           | 200         |        |
| BA (m²/ha)  | 31                          | 1.9              | 33          | 2.3          | 27          | 2.5          | 25          | 2.6          | 24             | 2.8          | 23          | 3.0          | 21          | 3.5               | 19          | 4.2          | 16          |        |
| VOL (m³/ha) | 385                         | 54               | 439         | 52           | 359         | 52           | 340         | 53           | 320            | 53           | 309         | 54           | 282         | 56                | 246         | 61           | 211         |        |
| BA (m²/ha)  | 34                          | 1.7              | 36          | 2.2          | 29          | 2.3          | 27          | 2.4          | 26             | 2.5          | 25          | 2.8          | 23          | 3.3               | 20          | 3.9          | 17          |        |
| VOL (m³/ha) | 420                         | 55               | 475         | 53           | 387         | 52           | 366         | 52           | 345            | 52           | 332         | 53           | 303         | 55                | 262         | 59           | 223         |        |
| BA (m²/ha)  | 37                          | 1.6              | 38          | 2.0          | 31          | 2.1          | 30          | 2.3          | 28             | 2.3          | 27          | 2.6          | 24          | 3.0               | 21          | 3.7          | 18          |        |
| VOL (m³/ha) | 455                         | 57               | 512         | 53           | 416         | 53           | 392         | 52           | 369            | 52           | 355         | 53           | 323         | 54                | 278         | 57           | 236         |        |
| BA (m²/ha)  | 40                          | 1.5              | 41          | 1.8          | 34          | 2.0          | 32          | 2.1          | 30             | 2.2          | 29          | 2.4          | 26          | 2.8               | 23          | 3.4          | 19          |        |
| VOL (m³/ha) | 490                         | 58               | 548         | 54           | 445         | 53           | 419         | 53           | 394            | 53           | 379         | 52           | 344         | 53                | 295         | 56           | 248         |        |
| BA (m²/ha)  | 43                          | 1.4              | 44          | 1.7          | 36          | 1.8          | 34          | 2.0          | 32             | 2.0          | 31          | 2.3          | 28          | 2.7               | 24          | 3.2          | 20          |        |
| VOL (m³/ha) | 525                         | 60               | 585         | 55           | 474         | 54           | 446         | 53           | 419            | 53           | 403         | 52           | 365         | 53                | 312         | 55           | 261         |        |
| BA (m²/ha)  | 46                          | 1.3              | 47          | 1.6          | 38          | 1.7          | 36          | 1.8          | 34             | 1.9          | 33          | 2.1          | 30          | 2.5               | 25          | 3.0          | 21          |        |
| VOL (m³/ha) | 560                         | 62               | 622         | 56           | 503         | 55           | 474         | 54           | 444            | 54           | 427         | 53           | 386         | 52                | 329         | 54           | 275         |        |
| BA (m²/ha)  | 49                          | 1.2              | 50          | 1.5          | 41          | 1.6          | 38          | 1.7          | 36             | 1.8          | 35          | 2.0          | 31          | 2.4               | 27          | 2.9          | 22          |        |
| VOL (m³/ha) | 595                         | 64               | 659         | 58           | 532         | 56           | 501         | 55           | 470            | 54           | 451         | 53           | 408         | 52                | 347         | 53           | 288         |        |
| BA (m²/ha)  | 52                          | 1.2              | 53          | 1.4          | 43          | 1.5          | 41          | 1.6          | 38             | 1.7          | 36          | 1.9          | 33          | 2.2               | 28          | 2.7          | 23          |        |
| VOL (m³/ha) | 630                         | 66               | 696         | 59           | 562         | 57           | 528         | 56           | 495            | 55           | 475         | 54           | 429         | 52                | 364         | 53           | 301         |        |
| BA (m²/ha)  | 55                          | 1.1              | 56          | 1.4          | 45          | 1.4          | 43          | 1.5          | 40             | 1.6          | 38          | 1.8          | 35          | 2.1               | 29          | 2.6          | 24          |        |
| VOL (m³/ha) | 665                         | 69               | 734         | 60           | 591         | 59           | 556         | 57           | 521            | 56           | 500         | 54           | 451         | 53                | 382         | 53           | 315         |        |
| BA (m²/ha)  | 58                          | 1.0              | 59          | 1.3          | 48          | 1.4          | 45          | 1.5          | 42             | 1.5          | 40          | 1.7          | 36          | 2.0               | 31          | 2.5          | 26          |        |
| VOL (m³/ha) | 700                         | 71               | 771         | 62           | 621         | 60           | 584         | 58           | 546            | 57           | 524         | 55           | 473         | 53                | 400         | 52           | 329         |        |
| BA (m²/ha)  | 61                          | 1.0              | 62          | 1.2          | 50          | 1.3          | 47          | 1.4          | 44             | 1.5          | 42          | 1.6          | 38          | 1.9               | 32          | 2.4          | 27          |        |

TABLE 3 (continued)

|                             | Percent thinning |             |                |             |              |             |                       |             |              |             |                   |             |              |             |              |             |     |
|-----------------------------|------------------|-------------|----------------|-------------|--------------|-------------|-----------------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------------|-------------|-----|
| Stand<br>before<br>thinning | 0                |             | 20             |             | 25           |             | 30                    |             | 33           |             | 40                |             | 50           |             | 60           |             |     |
|                             | 5-yr<br>grth     | 5-yr<br>yld | 5-yr<br>grth   | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth          | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth      | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |     |
|                             | SITE INDEX 22    |             | PRESENT AGE 60 |             |              |             | PRESENT HEIGHT 26.1 M |             |              |             | HEIGHT IN 5 YEARS |             |              |             | 28.0 M       |             |     |
| VOL (m <sup>3</sup> /ha)    | 385              | 43          | 428            | 40          | 347          | 40          | 327                   | 40          | 307          | 40          | 296               | 40          | 268          | 41          | 230          | 43          | 194 |
| BA (m <sup>2</sup> /ha)     | 31               | 1.0         | 32             | 1.3         | 26           | 1.4         | 25                    | 1.4         | 23           | 1.5         | 22                | 1.7         | 20           | 2.0         | 17           | 2.4         | 15  |
| VOL (m <sup>3</sup> /ha)    | 420              | 45          | 465            | 41          | 376          | 41          | 354                   | 40          | 332          | 40          | 319               | 40          | 289          | 40          | 247          | 42          | 206 |
| BA (m <sup>2</sup> /ha)     | 34               | 0.9         | 35             | 1.2         | 28           | 1.3         | 27                    | 1.3         | 25           | 1.4         | 24                | 1.5         | 22           | 1.8         | 19           | 2.2         | 16  |
| VOL (m <sup>3</sup> /ha)    | 455              | 46          | 501            | 42          | 405          | 41          | 381                   | 41          | 357          | 40          | 343               | 40          | 310          | 40          | 264          | 41          | 220 |
| BA (m <sup>2</sup> /ha)     | 37               | 0.9         | 38             | 1.1         | 30           | 1.2         | 29                    | 1.2         | 27           | 1.3         | 26                | 1.4         | 23           | 1.7         | 20           | 2.1         | 16  |
| VOL (m <sup>3</sup> /ha)    | 490              | 48          | 538            | 43          | 434          | 42          | 408                   | 41          | 383          | 41          | 367               | 40          | 332          | 40          | 282          | 41          | 233 |
| BA (m <sup>2</sup> /ha)     | 40               | 0.8         | 40             | 1.0         | 33           | 1.1         | 31                    | 1.2         | 29           | 1.2         | 28                | 1.3         | 25           | 1.6         | 21           | 1.9         | 17  |
| VOL (m <sup>3</sup> /ha)    | 525              | 50          | 575            | 45          | 463          | 43          | 436                   | 42          | 408          | 42          | 391               | 41          | 353          | 40          | 299          | 40          | 246 |
| BA (m <sup>2</sup> /ha)     | 42               | 0.8         | 43             | 1.0         | 35           | 1.0         | 33                    | 1.1         | 31           | 1.1         | 29                | 1.3         | 27           | 1.5         | 22           | 1.8         | 19  |
| VOL (m <sup>3</sup> /ha)    | 560              | 52          | 612            | 46          | 493          | 45          | 463                   | 43          | 433          | 43          | 416               | 41          | 375          | 40          | 317          | 40          | 260 |
| BA (m <sup>2</sup> /ha)     | 45               | 0.7         | 46             | 0.9         | 37           | 1.0         | 35                    | 1.0         | 33           | 1.1         | 31                | 1.2         | 28           | 1.4         | 24           | 1.7         | 20  |
| VOL (m <sup>3</sup> /ha)    | 595              | 54          | 649            | 47          | 522          | 46          | 491                   | 44          | 459          | 44          | 440               | 42          | 396          | 40          | 335          | 40          | 274 |
| BA (m <sup>2</sup> /ha)     | 48               | 0.7         | 49             | 0.8         | 39           | 0.9         | 37                    | 1.0         | 34           | 1.0         | 33                | 1.1         | 30           | 1.3         | 25           | 1.6         | 21  |
| VOL (m <sup>3</sup> /ha)    | 630              | 57          | 687            | 49          | 552          | 47          | 518                   | 46          | 485          | 45          | 465               | 43          | 418          | 40          | 352          | 40          | 288 |
| BA (m <sup>2</sup> /ha)     | 51               | 0.6         | 52             | 0.8         | 41           | 0.8         | 39                    | 0.9         | 36           | 0.9         | 35                | 1.1         | 31           | 1.3         | 26           | 1.6         | 22  |
| VOL (m <sup>3</sup> /ha)    | 665              | 59          | 724            | 51          | 581          | 49          | 546                   | 47          | 510          | 46          | 489               | 44          | 440          | 41          | 370          | 40          | 302 |
| BA (m <sup>2</sup> /ha)     | 54               | 0.6         | 54             | 0.8         | 44           | 0.8         | 41                    | 0.9         | 38           | 0.9         | 37                | 1.0         | 33           | 1.2         | 28           | 1.5         | 23  |
| VOL (m <sup>3</sup> /ha)    | 700              | 61          | 761            | 52          | 611          | 50          | 574                   | 48          | 536          | 47          | 514               | 45          | 462          | 42          | 389          | 40          | 316 |
| BA (m <sup>2</sup> /ha)     | 57               | 0.6         | 57             | 0.7         | 46           | 0.8         | 43                    | 0.8         | 40           | 0.9         | 39                | 1.0         | 35           | 1.1         | 29           | 1.4         | 24  |
| VOL (m <sup>3</sup> /ha)    | 735              | 63          | 798            | 54          | 641          | 52          | 601                   | 49          | 562          | 48          | 539               | 46          | 484          | 42          | 407          | 40          | 330 |
| BA (m <sup>2</sup> /ha)     | 59               | 0.6         | 60             | 0.7         | 48           | 0.7         | 45                    | 0.8         | 42           | 0.8         | 40                | 0.9         | 36           | 1.1         | 31           | 1.3         | 25  |
| VOL (m <sup>3</sup> /ha)    | 770              | 66          | 836            | 56          | 670          | 53          | 629                   | 51          | 588          | 50          | 563               | 47          | 506          | 43          | 425          | 40          | 345 |
| BA (m <sup>2</sup> /ha)     | 62               | 0.5         | 63             | 0.7         | 50           | 0.7         | 47                    | 0.7         | 44           | 0.8         | 42                | 0.9         | 38           | 1.0         | 32           | 1.3         | 26  |



Red pine pulpwood from second thinning stacked along road in Victoria County Forest (W. Masters, 1964)

TABLE 3 (continued)



Peeled and stacked red pine bolts representing 4000 m<sup>3</sup> of pulpwood thinned from Stony Tract, Simcoe County Forest. (T. Jenkins, 1969)

| Percent thinning              |              |             |                       |             |              |             |                              |             |              |             |                                 |             |              |             |              |             |
|-------------------------------|--------------|-------------|-----------------------|-------------|--------------|-------------|------------------------------|-------------|--------------|-------------|---------------------------------|-------------|--------------|-------------|--------------|-------------|
| Stand<br>before<br>thinning   | 0            |             | 20                    |             | 25           |             | 30                           |             | 33           |             | 40                              |             | 50           |             | 60           |             |
|                               | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth          | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth                 | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth                    | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
| <b>SITE INDEX</b>             | <b>24</b>    |             | <b>PRESENT AGE 20</b> |             |              |             | <b>PRESENT HEIGHT 10.0 M</b> |             |              |             | <b>HEIGHT IN 5 YEARS 12.4 M</b> |             |              |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>105</b>   | 81 186      | 84 167                | 86 163      | 87 159       | 88 156      | 90 151                       | 95 144      | 100 138      |             |                                 |             |              |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>23</b>    | 9.3 32      | 10.8 29               | 11.2 28     | 11.7 28      | 12.0 27     | 12.7 26                      | 13.9 25     | 15.3 24      |             |                                 |             |              |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>140</b>   | 79 219      | 80 191                | 81 184      | 82 178       | 83 174      | 85 166                       | 88 155      | 93 146       |             |                                 |             |              |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>30</b>    | 7.5 38      | 8.9 33                | 9.3 32      | 9.8 31       | 10.1 30     | 10.9 29                      | 12.1 27     | 13.6 25      |             |                                 |             |              |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>175</b>   | 80 255      | 79 218                | 79 209      | 79 200       | 80 195      | 81 184                       | 84 168      | 88 155       |             |                                 |             |              |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>38</b>    | 6.3 44      | 7.6 38                | 8.0 36      | 8.4 35       | 8.7 34      | 9.4 32                       | 10.6 29     | 12.2 27      |             |                                 |             |              |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>210</b>   | 83 293      | 80 247                | 79 235      | 79 224       | 79 218      | 79 203                       | 81 183      | 85 165       |             |                                 |             |              |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>45</b>    | 5.4 51      | 6.5 43                | 6.9 41      | 7.3 39       | 7.6 38      | 8.2 35                       | 9.4 32      | 10.9 29      |             |                                 |             |              |             |              |             |
| <b>SITE INDEX</b>             | <b>24</b>    |             | <b>PRESENT AGE 25</b> |             |              |             | <b>PRESENT HEIGHT 12.4 M</b> |             |              |             | <b>HEIGHT IN 5 YEARS 14.8 M</b> |             |              |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>140</b>   | 82 222      | 86 196                | 87 191      | 89 185       | 90 182      | 93 174                       | 98 165      | 104 157      |             |                                 |             |              |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>24</b>    | 7.7 32      | 9.1 28                | 9.5 28      | 9.9 27       | 10.2 26     | 10.9 25                      | 12.0 24     | 13.4 23      |             |                                 |             |              |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>175</b>   | 80 255      | 82 221                | 83 213      | 84 205       | 85 200      | 87 190                       | 92 176      | 98 165       |             |                                 |             |              |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>30</b>    | 6.5 37      | 7.8 32                | 8.2 31      | 8.6 30       | 8.9 29      | 9.5 28                       | 10.7 26     | 12.1 24      |             |                                 |             |              |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>210</b>   | 80 290      | 80 247                | 81 237      | 81 227       | 82 221      | 84 207                       | 87 189      | 93 174       |             |                                 |             |              |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>36</b>    | 5.6 42      | 6.8 36                | 7.1 34      | 7.5 33       | 7.8 32      | 8.4 30                       | 9.6 27      | 11.0 25      |             |                                 |             |              |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>245</b>   | 82 327      | 80 275                | 80 262      | 80 250       | 80 243      | 81 226                       | 84 204      | 89 184       |             |                                 |             |              |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>42</b>    | 4.9 47      | 6.0 40                | 6.3 38      | 6.7 36       | 6.9 35      | 7.5 33                       | 8.6 29      | 10.0 27      |             |                                 |             |              |             |              |             |
| <b>VOL (m<sup>3</sup>/ha)</b> | <b>280</b>   | 85 365      | 81 304                | 80 289      | 80 274       | 80 266      | 80 246                       | 82 219      | 86 195       |             |                                 |             |              |             |              |             |
| <b>BA (m<sup>2</sup>/ha)</b>  | <b>48</b>    | 4.4 53      | 5.3 44                | 5.6 42      | 6.0 40       | 6.2 38      | 6.8 36                       | 7.9 32      | 9.2 28       |             |                                 |             |              |             |              |             |

TABLE 3 (continued)

|                          | Stand<br>before<br>thinning | Percent thinning |             |                |             |              |             |                       |             |              |             |                          |             |              |             |              |             |
|--------------------------|-----------------------------|------------------|-------------|----------------|-------------|--------------|-------------|-----------------------|-------------|--------------|-------------|--------------------------|-------------|--------------|-------------|--------------|-------------|
|                          |                             | 0                |             | 20             |             | 25           |             | 30                    |             | 33           |             | 40                       |             | 50           |             | 60           |             |
|                          |                             | 5-yr<br>grth     | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth          | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth             | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
|                          | SITE INDEX                  | 24               |             | PRESENT AGE 30 |             |              |             | PRESENT HEIGHT 14.8 M |             |              |             | HEIGHT IN 5 YEARS 17.1 M |             |              |             |              |             |
| VOL (m <sup>3</sup> /ha) | 175                         | 81               | 256         | 85             | 224         | 87           | 217         | 89                    | 209         | 90           | 205         | 93                       | 196         | 99           | 183         | 106          | 173         |
| BA (m <sup>2</sup> /ha)  | 25                          | 6.5              | 32          | 7.7            | 28          | 8.1          | 27          | 8.5                   | 26          | 8.7          | 26          | 9.4                      | 24          | 10.4         | 23          | 11.7         | 22          |
| VOL (m <sup>3</sup> /ha) | 210                         | 80               | 290         | 82             | 249         | 83           | 239         | 84                    | 230         | 85           | 224         | 88                       | 212         | 93           | 195         | 100          | 181         |
| BA (m <sup>2</sup> /ha)  | 30                          | 5.6              | 36          | 6.8            | 31          | 7.1          | 30          | 7.5                   | 29          | 7.7          | 28          | 8.4                      | 26          | 9.4          | 24          | 10.7         | 23          |
| VOL (m <sup>3</sup> /ha) | 245                         | 80               | 325         | 80             | 275         | 81           | 263         | 82                    | 251         | 82           | 245         | 85                       | 229         | 89           | 208         | 96           | 190         |
| BA (m <sup>2</sup> /ha)  | 35                          | 4.9              | 40          | 6.0            | 34          | 6.3          | 33          | 6.7                   | 31          | 6.9          | 30          | 7.5                      | 28          | 8.5          | 26          | 9.8          | 24          |
| VOL (m <sup>3</sup> /ha) | 280                         | 81               | 361         | 80             | 302         | 80           | 288         | 80                    | 274         | 81           | 266         | 82                       | 248         | 86           | 223         | 92           | 200         |
| BA (m <sup>2</sup> /ha)  | 40                          | 4.4              | 45          | 5.4            | 38          | 5.7          | 36          | 6.0                   | 34          | 6.2          | 33          | 6.8                      | 31          | 7.8          | 28          | 9.1          | 25          |
| VOL (m <sup>3</sup> /ha) | 315                         | 83               | 398         | 80             | 331         | 80           | 314         | 80                    | 298         | 80           | 289         | 81                       | 267         | 83           | 238         | 88           | 211         |
| BA (m <sup>2</sup> /ha)  | 45                          | 4.0              | 49          | 4.9            | 41          | 5.1          | 39          | 5.4                   | 37          | 5.7          | 36          | 6.2                      | 33          | 7.2          | 30          | 8.4          | 26          |
| VOL (m <sup>3</sup> /ha) | 350                         | 86               | 436         | 81             | 360         | 80           | 341         | 80                    | 323         | 80           | 312         | 80                       | 287         | 82           | 254         | 86           | 222         |
| BA (m <sup>2</sup> /ha)  | 50                          | 3.6              | 54          | 4.4            | 45          | 4.7          | 42          | 5.0                   | 40          | 5.2          | 39          | 5.7                      | 36          | 6.6          | 32          | 7.8          | 28          |
|                          | SITE INDEX                  | 24               |             | PRESENT AGE 35 |             |              |             | PRESENT HEIGHT 17.1 M |             |              |             | HEIGHT IN 5 YEARS 19.4 M |             |              |             |              |             |
| VOL (m <sup>3</sup> /ha) | 210                         | 79               | 289         | 83             | 250         | 85           | 241         | 87                    | 232         | 88           | 227         | 91                       | 215         | 97           | 199         | 105          | 186         |
| BA (m <sup>2</sup> /ha)  | 26                          | 5.5              | 32          | 6.5            | 27          | 6.9          | 26          | 7.2                   | 25          | 7.5          | 25          | 8.0                      | 23          | 9.0          | 22          | 10.2         | 20          |
| VOL (m <sup>3</sup> /ha) | 245                         | 78               | 323         | 80             | 275         | 82           | 264         | 83                    | 253         | 84           | 246         | 87                       | 231         | 92           | 212         | 100          | 194         |
| BA (m <sup>2</sup> /ha)  | 30                          | 4.8              | 35          | 5.8            | 30          | 6.1          | 29          | 6.5                   | 28          | 6.7          | 27          | 7.2                      | 25          | 8.2          | 23          | 9.4          | 21          |
| VOL (m <sup>3</sup> /ha) | 280                         | 78               | 358         | 79             | 301         | 79           | 288         | 80                    | 275         | 81           | 267         | 83                       | 249         | 88           | 225         | 95           | 204         |
| BA (m <sup>2</sup> /ha)  | 35                          | 4.3              | 39          | 5.2            | 33          | 5.5          | 31          | 5.8                   | 30          | 6.0          | 29          | 6.6                      | 27          | 7.5          | 25          | 8.7          | 22          |
| VOL (m <sup>3</sup> /ha) | 315                         | 79               | 394         | 78             | 329         | 78           | 313         | 79                    | 298         | 79           | 288         | 81                       | 268         | 85           | 240         | 92           | 214         |
| BA (m <sup>2</sup> /ha)  | 39                          | 3.9              | 43          | 4.7            | 36          | 5.0          | 34          | 5.3                   | 32          | 5.5          | 31          | 6.0                      | 29          | 6.9          | 26          | 8.1          | 23          |
| VOL (m <sup>3</sup> /ha) | 350                         | 80               | 430         | 78             | 357         | 78           | 339         | 79                    | 321         | 78           | 311         | 79                       | 287         | 83           | 255         | 88           | 225         |
| BA (m <sup>2</sup> /ha)  | 43                          | 3.5              | 47          | 4.3            | 39          | 4.6          | 37          | 4.9                   | 35          | 5.0          | 34          | 5.5                      | 31          | 6.4          | 28          | 7.5          | 25          |
| VOL (m <sup>3</sup> /ha) | 385                         | 82               | 467         | 79             | 385         | 78           | 365         | 78                    | 346         | 78           | 334         | 78                       | 307         | 81           | 270         | 86           | 236         |
| BA (m <sup>2</sup> /ha)  | 48                          | 3.2              | 51          | 4.0            | 42          | 4.2          | 40          | 4.5                   | 38          | 4.6          | 36          | 5.1                      | 33          | 5.9          | 29          | 7.0          | 26          |
| VOL (m <sup>3</sup> /ha) | 420                         | 85               | 505         | 80             | 414         | 79           | 392         | 78                    | 370         | 78           | 357         | 78                       | 328         | 80           | 286         | 84           | 248         |
| BA (m <sup>2</sup> /ha)  | 52                          | 3.0              | 55          | 3.7            | 45          | 3.9          | 43          | 4.1                   | 40          | 4.3          | 39          | 4.7                      | 36          | 5.5          | 31          | 6.6          | 27          |
|                          | SITE INDEX                  | 24               |             | PRESENT AGE 40 |             |              |             | PRESENT HEIGHT 19.4 M |             |              |             | HEIGHT IN 5 YEARS 21.7 M |             |              |             |              |             |
| VOL (m <sup>3</sup> /ha) | 245                         | 76               | 321         | 79             | 274         | 81           | 263         | 82                    | 252         | 84           | 246         | 87                       | 232         | 93           | 213         | 101          | 196         |
| BA (m <sup>2</sup> /ha)  | 27                          | 4.5              | 31          | 5.4            | 27          | 5.7          | 26          | 6.0                   | 25          | 6.2          | 24          | 6.8                      | 23          | 7.6          | 21          | 8.7          | 19          |
| VOL (m <sup>3</sup> /ha) | 280                         | 75               | 355         | 77             | 300         | 78           | 286         | 79                    | 273         | 80           | 266         | 83                       | 249         | 89           | 226         | 96           | 205         |
| BA (m <sup>2</sup> /ha)  | 30                          | 4.0              | 35          | 4.9            | 29          | 5.2          | 28          | 5.4                   | 27          | 5.6          | 26          | 6.1                      | 24          | 7.0          | 22          | 8.1          | 20          |
| VOL (m <sup>3</sup> /ha) | 315                         | 75               | 390         | 75             | 326         | 76           | 311         | 77                    | 296         | 78           | 287         | 80                       | 267         | 85           | 239         | 92           | 215         |
| BA (m <sup>2</sup> /ha)  | 34                          | 3.6              | 38          | 4.4            | 32          | 4.7          | 30          | 5.0                   | 29          | 5.1          | 28          | 5.6                      | 26          | 6.5          | 23          | 7.5          | 21          |
| VOL (m <sup>3</sup> /ha) | 350                         | 76               | 426         | 75             | 354         | 75           | 336         | 76                    | 319         | 76           | 309         | 78                       | 286         | 82           | 254         | 89           | 225         |
| BA (m <sup>2</sup> /ha)  | 38                          | 3.3              | 41          | 4.0            | 34          | 4.3          | 33          | 4.5                   | 31          | 4.7          | 30          | 5.2                      | 28          | 6.0          | 25          | 7.0          | 22          |
| VOL (m <sup>3</sup> /ha) | 385                         | 77               | 462         | 75             | 382         | 75           | 362         | 75                    | 343         | 75           | 331         | 76                       | 305         | 80           | 269         | 86           | 236         |
| BA (m <sup>2</sup> /ha)  | 42                          | 3.0              | 45          | 3.7            | 37          | 3.9          | 35          | 4.2                   | 33          | 4.4          | 32          | 4.8                      | 30          | 5.6          | 26          | 6.6          | 23          |
| VOL (m <sup>3</sup> /ha) | 420                         | 79               | 499         | 75             | 410         | 75           | 388         | 75                    | 367         | 75           | 354         | 75                       | 325         | 78           | 285         | 83           | 248         |
| BA (m <sup>2</sup> /ha)  | 46                          | 2.8              | 48          | 3.4            | 40          | 3.6          | 38          | 3.9                   | 36          | 4.0          | 34          | 4.4                      | 32          | 5.2          | 28          | 6.2          | 24          |
| VOL (m <sup>3</sup> /ha) | 455                         | 81               | 536         | 76             | 439         | 75           | 415         | 75                    | 392         | 75           | 378         | 75                       | 346         | 77           | 301         | 81           | 260         |
| BA (m <sup>2</sup> /ha)  | 49                          | 2.6              | 52          | 3.2            | 43          | 3.4          | 40          | 3.6                   | 38          | 3.8          | 37          | 4.2                      | 34          | 4.9          | 29          | 5.8          | 25          |
| VOL (m <sup>3</sup> /ha) | 490                         | 83               | 573         | 77             | 468         | 76           | 442         | 75                    | 417         | 75           | 401         | 75                       | 366         | 76           | 318         | 79           | 272         |
| BA (m <sup>2</sup> /ha)  | 53                          | 2.4              | 56          | 3.0            | 45          | 3.2          | 43          | 3.4                   | 41          | 3.5          | 39          | 3.9                      | 36          | 4.6          | 31          | 5.5          | 26          |
| VOL (m <sup>3</sup> /ha) | 525                         | 85               | 610         | 78             | 497         | 77           | 469         | 76                    | 442         | 76           | 425         | 75                       | 387         | 75           | 335         | 78           | 284         |
| BA (m <sup>2</sup> /ha)  | 57                          | 2.3              | 59          | 2.8            | 48          | 3.0          | 46          | 3.2                   | 43          | 3.3          | 41          | 3.7                      | 38          | 4.3          | 33          | 5.2          | 28          |

TABLE 3 (continued)

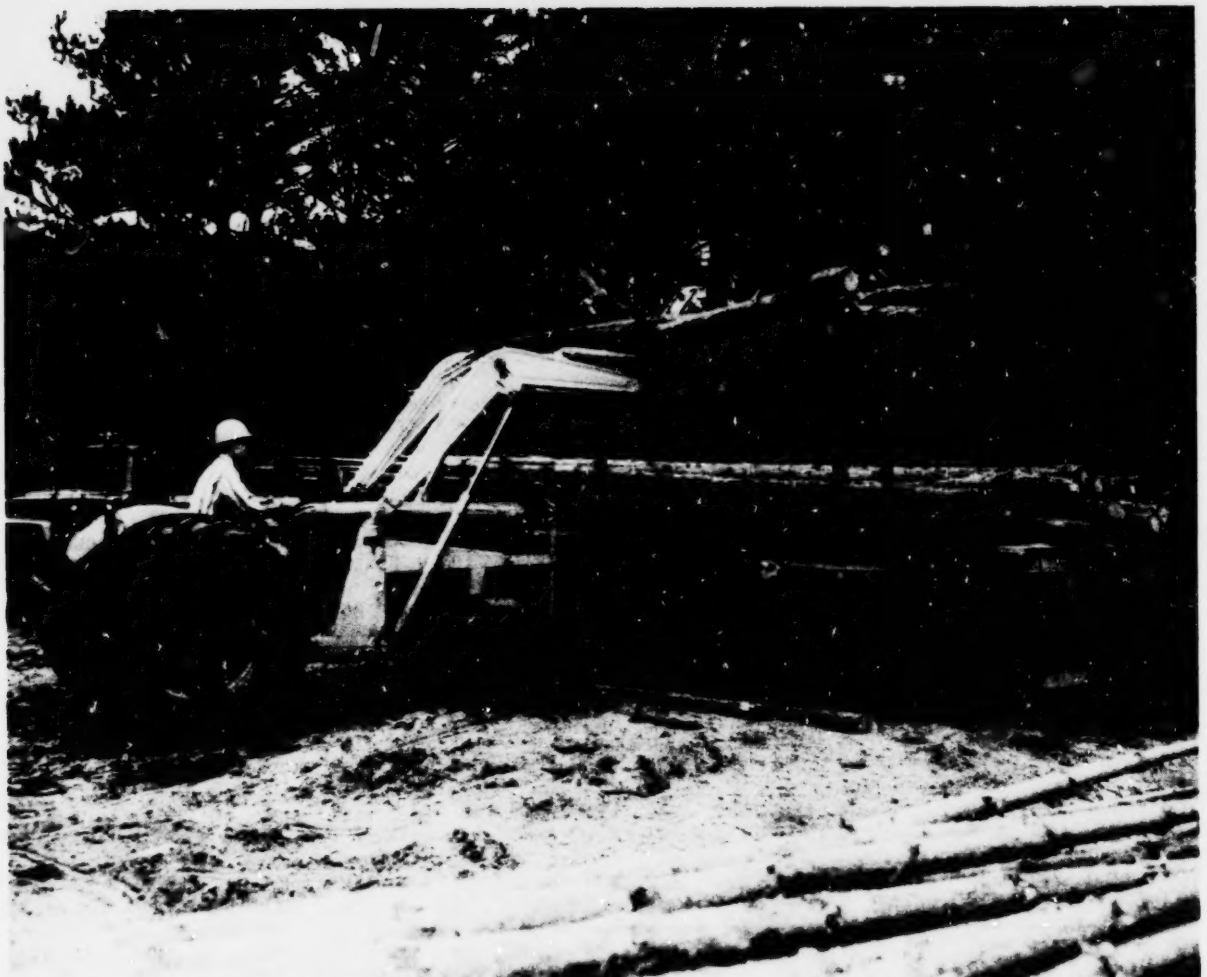
|                          |     | Percent thinning            |              |                |              |             |              |                       |              |             |              |                          |              |             |              |             |              |             |  |
|--------------------------|-----|-----------------------------|--------------|----------------|--------------|-------------|--------------|-----------------------|--------------|-------------|--------------|--------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--|
|                          |     | 0                           |              | 20             |              | 25          |              | 30                    |              | 33          |              | 40                       |              | 50          |              | 60          |              |             |  |
|                          |     | Stand<br>before<br>thinning | 5-yr<br>grth | 5-yr<br>yld    | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld           | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld              | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |  |
|                          |     | SITE INDEX                  | 24           | PRESENT AGE 45 |              |             |              | PRESENT HEIGHT 21.7 M |              |             |              | HEIGHT IN 5 YEARS 24.0 M |              |             |              |             |              |             |  |
| VOL (m <sup>3</sup> /ha) | 315 | 70                          | 385          | 71             | 322          | 72          | 307          | 73                    | 292          | 74          | 283          | 76                       | 263          | 82          | 236          | 89          | 211          |             |  |
| BA (m <sup>2</sup> /ha)  | 31  | 3.2                         | 34           | 3.9            | 28           | 4.2         | 27           | 4.4                   | 26           | 4.6         | 25           | 5.0                      | 23           | 5.7         | 21           | 6.7         | 19           |             |  |
| VOL (m <sup>3</sup> /ha) | 350 | 70                          | 420          | 70             | 349          | 71          | 332          | 71                    | 315          | 72          | 305          | 74                       | 282          | 78          | 250          | 85          | 222          |             |  |
| BA (m <sup>2</sup> /ha)  | 34  | 2.9                         | 37           | 3.6            | 31           | 3.8         | 29           | 4.0                   | 28           | 4.2         | 27           | 4.6                      | 25           | 5.3         | 22           | 6.2         | 20           |             |  |
| VOL (m <sup>3</sup> /ha) | 385 | 71                          | 456          | 70             | 376          | 70          | 357          | 70                    | 338          | 71          | 327          | 72                       | 301          | 76          | 266          | 82          | 233          |             |  |
| BA (m <sup>2</sup> /ha)  | 37  | 2.7                         | 40           | 3.3            | 33           | 3.5         | 31           | 3.7                   | 30           | 3.9         | 29           | 4.2                      | 26           | 4.9         | 23           | 5.8         | 21           |             |  |
| VOL (m <sup>3</sup> /ha) | 420 | 72                          | 492          | 70             | 405          | 70          | 383          | 70                    | 362          | 70          | 349          | 71                       | 321          | 74          | 281          | 80          | 244          |             |  |
| BA (m <sup>2</sup> /ha)  | 41  | 2.4                         | 43           | 3.1            | 36           | 3.2         | 34           | 3.4                   | 32           | 3.6         | 31           | 4.0                      | 28           | 4.6         | 25           | 5.5         | 22           |             |  |
| VOL (m <sup>3</sup> /ha) | 455 | 74                          | 529          | 70             | 433          | 70          | 410          | 70                    | 386          | 70          | 373          | 70                       | 341          | 73          | 297          | 78          | 256          |             |  |
| BA (m <sup>2</sup> /ha)  | 44  | 2.3                         | 46           | 2.8            | 38           | 3.0         | 36           | 3.2                   | 34           | 3.3         | 33           | 3.7                      | 30           | 4.3         | 26           | 5.2         | 23           |             |  |
| VOL (m <sup>3</sup> /ha) | 490 | 76                          | 566          | 71             | 462          | 70          | 436          | 70                    | 411          | 70          | 396          | 70                       | 361          | 71          | 313          | 76          | 268          |             |  |
| BA (m <sup>2</sup> /ha)  | 48  | 2.1                         | 50           | 2.7            | 41           | 2.8         | 38           | 3.0                   | 36           | 3.1         | 35           | 3.5                      | 32           | 4.1         | 28           | 4.9         | 24           |             |  |
| VOL (m <sup>3</sup> /ha) | 525 | 78                          | 603          | 72             | 491          | 71          | 463          | 70                    | 436          | 70          | 420          | 70                       | 382          | 71          | 330          | 74          | 281          |             |  |
| BA (m <sup>2</sup> /ha)  | 51  | 2.0                         | 53           | 2.5            | 43           | 2.6         | 41           | 2.8                   | 38           | 2.9         | 37           | 3.3                      | 34           | 3.8         | 29           | 4.6         | 25           |             |  |
| VOL (m <sup>3</sup> /ha) | 560 | 80                          | 640          | 73             | 520          | 72          | 491          | 71                    | 461          | 70          | 444          | 70                       | 403          | 70          | 347          | 73          | 293          |             |  |
| BA (m <sup>2</sup> /ha)  | 54  | 1.9                         | 56           | 2.3            | 46           | 2.5         | 43           | 2.7                   | 41           | 2.8         | 39           | 3.1                      | 35           | 3.6         | 31           | 4.4         | 26           |             |  |
| VOL (m <sup>3</sup> /ha) | 595 | 82                          | 677          | 75             | 550          | 73          | 518          | 72                    | 487          | 71          | 468          | 70                       | 425          | 70          | 364          | 72          | 306          |             |  |
| BA (m <sup>2</sup> /ha)  | 58  | 1.8                         | 60           | 2.2            | 48           | 2.4         | 46           | 2.5                   | 43           | 2.6         | 41           | 2.9                      | 37           | 3.4         | 32           | 4.2         | 27           |             |  |
| VOL (m <sup>3</sup> /ha) | 630 | 85                          | 715          | 76             | 579          | 75          | 546          | 73                    | 512          | 72          | 492          | 71                       | 446          | 70          | 382          | 71          | 320          |             |  |
| BA (m <sup>2</sup> /ha)  | 61  | 1.7                         | 63           | 2.1            | 51           | 2.2         | 48           | 2.4                   | 45           | 2.5         | 43           | 2.8                      | 39           | 3.3         | 34           | 4.0         | 28           |             |  |
|                          |     | SITE INDEX                  | 24           | PRESENT AGE 50 |              |             |              | PRESENT HEIGHT 24.0 M |              |             |              | HEIGHT IN 5 YEARS 26.2 M |              |             |              |             |              |             |  |
| VOL (m <sup>3</sup> /ha) | 350 | 62                          | 412          | 63             | 341          | 63          | 324          | 64                    | 307          | 64          | 297          | 66                       | 274          | 70          | 242          | 77          | 213          |             |  |
| BA (m <sup>2</sup> /ha)  | 31  | 2.4                         | 33           | 2.9            | 27           | 3.1         | 26           | 3.3                   | 25           | 3.4         | 24           | 3.8                      | 22           | 4.4         | 19           | 5.2         | 17           |             |  |
| VOL (m <sup>3</sup> /ha) | 385 | 63                          | 448          | 62             | 369          | 62          | 350          | 63                    | 330          | 63          | 319          | 65                       | 293          | 68          | 258          | 74          | 224          |             |  |
| BA (m <sup>2</sup> /ha)  | 34  | 2.2                         | 36           | 2.7            | 30           | 2.9         | 28           | 3.0                   | 27           | 3.2         | 26           | 3.5                      | 24           | 4.1         | 21           | 4.8         | 18           |             |  |
| VOL (m <sup>3</sup> /ha) | 420 | 64                          | 484          | 62             | 397          | 62          | 376          | 62                    | 354          | 62          | 342          | 63                       | 313          | 66          | 273          | 72          | 236          |             |  |
| BA (m <sup>2</sup> /ha)  | 37  | 2.0                         | 39           | 2.5            | 32           | 2.6         | 30           | 2.8                   | 29           | 2.9         | 27           | 3.2                      | 25           | 3.8         | 22           | 4.5         | 19           |             |  |
| VOL (m <sup>3</sup> /ha) | 455 | 66                          | 521          | 63             | 425          | 62          | 402          | 62                    | 379          | 62          | 365          | 63                       | 333          | 65          | 289          | 69          | 248          |             |  |
| BA (m <sup>2</sup> /ha)  | 40  | 1.9                         | 42           | 2.3            | 34           | 2.5         | 32           | 2.6                   | 30           | 2.7         | 29           | 3.0                      | 27           | 3.5         | 23           | 4.2         | 20           |             |  |
| VOL (m <sup>3</sup> /ha) | 490 | 67                          | 557          | 63             | 454          | 63          | 429          | 62                    | 403          | 62          | 388          | 62                       | 354          | 64          | 306          | 68          | 260          |             |  |
| BA (m <sup>2</sup> /ha)  | 43  | 1.8                         | 45           | 2.2            | 37           | 2.3         | 34           | 2.5                   | 32           | 2.6         | 31           | 2.8                      | 28           | 3.3         | 25           | 4.0         | 21           |             |  |
| VOL (m <sup>3</sup> /ha) | 525 | 69                          | 594          | 64             | 483          | 63          | 456          | 63                    | 428          | 62          | 412          | 62                       | 375          | 63          | 323          | 66          | 273          |             |  |
| BA (m <sup>2</sup> /ha)  | 46  | 1.6                         | 48           | 2.0            | 39           | 2.2         | 37           | 2.3                   | 34           | 2.4         | 33           | 2.7                      | 30           | 3.1         | 26           | 3.8         | 22           |             |  |
| VOL (m <sup>3</sup> /ha) | 560 | 71                          | 631          | 65             | 512          | 64          | 483          | 63                    | 453          | 63          | 436          | 62                       | 396          | 63          | 340          | 65          | 286          |             |  |
| BA (m <sup>2</sup> /ha)  | 49  | 1.5                         | 51           | 1.9            | 41           | 2.0         | 39           | 2.2                   | 36           | 2.3         | 35           | 2.5                      | 32           | 3.0         | 27           | 3.6         | 23           |             |  |
| VOL (m <sup>3</sup> /ha) | 595 | 73                          | 668          | 67             | 541          | 65          | 510          | 64                    | 479          | 63          | 460          | 62                       | 417          | 62          | 357          | 64          | 299          |             |  |
| BA (m <sup>2</sup> /ha)  | 52  | 1.5                         | 54           | 1.8            | 44           | 1.9         | 41           | 2.0                   | 38           | 2.1         | 37           | 2.4                      | 34           | 2.8         | 29           | 3.4         | 24           |             |  |
| VOL (m <sup>3</sup> /ha) | 630 | 76                          | 706          | 68             | 571          | 66          | 537          | 65                    | 504          | 64          | 484          | 63                       | 439          | 62          | 374          | 64          | 312          |             |  |
| BA (m <sup>2</sup> /ha)  | 55  | 1.4                         | 57           | 1.7            | 46           | 1.8         | 43           | 1.9                   | 41           | 2.0         | 39           | 2.2                      | 35           | 2.7         | 30           | 3.2         | 25           |             |  |
| VOL (m <sup>3</sup> /ha) | 665 | 78                          | 743          | 70             | 600          | 68          | 565          | 66                    | 530          | 65          | 509          | 63                       | 460          | 62          | 392          | 63          | 325          |             |  |
| BA (m <sup>2</sup> /ha)  | 58  | 1.3                         | 60           | 1.6            | 48           | 1.7         | 45           | 1.8                   | 43           | 1.9         | 41           | 2.1                      | 37           | 2.5         | 31           | 3.1         | 26           |             |  |
| VOL (m <sup>3</sup> /ha) | 700 | 81                          | 781          | 71             | 630          | 69          | 593          | 67                    | 555          | 66          | 533          | 64                       | 482          | 62          | 409          | 63          | 339          |             |  |
| BA (m <sup>2</sup> /ha)  | 61  | 1.2                         | 63           | 1.5            | 51           | 1.6         | 48           | 1.8                   | 45           | 1.8         | 43           | 2.0                      | 39           | 2.4         | 33           | 3.0         | 27           |             |  |

TABLE 3 (continued)

| Percent thinning |                             |              |              |              |              |              |              |              |              |                |              |              |              |              |              |                   |              |  |  |        |  |
|------------------|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|--------------|--------------|--------------|--------------|-------------------|--------------|--|--|--------|--|
|                  | Stand<br>before<br>thinning | 0            |              | 20           |              | 25           |              | 30           |              | 33             |              | 40           |              | 50           |              | 60                |              |  |  |        |  |
|                  |                             | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth   | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth      | 5-yr<br>y'ld |  |  |        |  |
| SITE INDEX       |                             | 24           |              | PRESENT AGE  |              |              |              | 55           |              | PRESENT HEIGHT |              |              |              | 26.2 M       |              | HEIGHT IN 5 YEARS |              |  |  | 28.4 M |  |
| VOL (m³/ha)      | 385                         | 53           | 438          | 51           | 358          | 51           | 338          | 51           | 319          | 51             | 307          | 52           | 281          | 54           | 244          | 59                | 209          |  |  |        |  |
| BA (m²/ha)       | 31                          | 1.5          | 32           | 1.9          | 27           | 2.0          | 25           | 2.1          | 24           | 2.2            | 23           | 2.4          | 21           | 2.8          | 18           | 3.4               | 15           |  |  |        |  |
| VOL (m³/ha)      | 420                         | 54           | 474          | 51           | 386          | 51           | 364          | 51           | 343          | 51             | 330          | 51           | 301          | 53           | 260          | 57                | 221          |  |  |        |  |
| BA (m²/ha)       | 34                          | 1.4          | 35           | 1.7          | 29           | 1.8          | 27           | 2.0          | 25           | 2.0            | 24           | 2.2          | 22           | 2.6          | 19           | 3.2               | 16           |  |  |        |  |
| VOL (m³/ha)      | 455                         | 56           | 511          | 52           | 415          | 51           | 391          | 51           | 368          | 51             | 354          | 51           | 322          | 52           | 277          | 55                | 234          |  |  |        |  |
| BA (m²/ha)       | 37                          | 1.3          | 38           | 1.6          | 31           | 1.7          | 29           | 1.8          | 27           | 1.9            | 26           | 2.1          | 24           | 2.5          | 20           | 3.0               | 17           |  |  |        |  |
| VOL (m³/ha)      | 490                         | 57           | 547          | 53           | 444          | 52           | 418          | 51           | 393          | 51             | 377          | 51           | 342          | 51           | 293          | 54                | 246          |  |  |        |  |
| BA (m²/ha)       | 39                          | 1.2          | 41           | 1.5          | 33           | 1.6          | 31           | 1.7          | 29           | 1.8            | 28           | 2.0          | 25           | 2.3          | 22           | 2.8               | 18           |  |  |        |  |
| VOL (m³/ha)      | 525                         | 59           | 584          | 54           | 473          | 53           | 445          | 52           | 418          | 52             | 401          | 51           | 364          | 51           | 311          | 53                | 259          |  |  |        |  |
| BA (m²/ha)       | 42                          | 1.1          | 43           | 1.4          | 35           | 1.5          | 33           | 1.6          | 31           | 1.7            | 30           | 1.8          | 27           | 2.2          | 23           | 2.6               | 19           |  |  |        |  |
| VOL (m³/ha)      | 560                         | 61           | 621          | 55           | 502          | 54           | 472          | 53           | 443          | 52             | 426          | 51           | 385          | 51           | 328          | 52                | 273          |  |  |        |  |
| BA (m²/ha)       | 45                          | 1.1          | 46           | 1.3          | 37           | 1.4          | 35           | 1.5          | 33           | 1.6            | 32           | 1.7          | 29           | 2.0          | 24           | 2.5               | 20           |  |  |        |  |
| VOL (m³/ha)      | 595                         | 63           | 658          | 57           | 531          | 55           | 500          | 54           | 469          | 53             | 450          | 52           | 406          | 51           | 345          | 52                | 286          |  |  |        |  |
| BA (m²/ha)       | 48                          | 1.0          | 49           | 1.2          | 39           | 1.3          | 37           | 1.4          | 35           | 1.5            | 33           | 1.6          | 30           | 1.9          | 26           | 2.4               | 21           |  |  |        |  |
| VOL (m³/ha)      | 630                         | 66           | 696          | 58           | 561          | 56           | 527          | 55           | 494          | 54             | 474          | 52           | 428          | 51           | 363          | 51                | 300          |  |  |        |  |
| BA (m²/ha)       | 51                          | 0.9          | 52           | 1.2          | 42           | 1.3          | 39           | 1.3          | 37           | 1.4            | 35           | 1.5          | 32           | 1.8          | 27           | 2.3               | 22           |  |  |        |  |
| VOL (m³/ha)      | 665                         | 68           | 733          | 60           | 590          | 58           | 555          | 56           | 520          | 55             | 499          | 53           | 450          | 51           | 381          | 51                | 313          |  |  |        |  |
| BA (m²/ha)       | 53                          | 0.9          | 54           | 1.1          | 44           | 1.2          | 41           | 1.3          | 39           | 1.3            | 37           | 1.5          | 33           | 1.7          | 28           | 2.2               | 23           |  |  |        |  |
| VOL (m³/ha)      | 700                         | 70           | 770          | 61           | 620          | 59           | 583          | 57           | 545          | 56             | 523          | 54           | 472          | 52           | 399          | 51                | 327          |  |  |        |  |
| BA (m²/ha)       | 56                          | 0.9          | 57           | 1.1          | 46           | 1.1          | 43           | 1.2          | 40           | 1.3            | 39           | 1.4          | 35           | 1.7          | 30           | 2.1               | 24           |  |  |        |  |
| VOL (m³/ha)      | 735                         | 73           | 808          | 63           | 650          | 61           | 610          | 59           | 571          | 57             | 548          | 55           | 493          | 52           | 417          | 51                | 341          |  |  |        |  |
| BA (m²/ha)       | 59                          | 0.8          | 60           | 1.0          | 48           | 1.1          | 45           | 1.2          | 42           | 1.2            | 41           | 1.3          | 37           | 1.6          | 31           | 2.0               | 25           |  |  |        |  |
| VOL (m³/ha)      | 770                         | 75           | 845          | 65           | 679          | 62           | 638          | 60           | 597          | 59             | 573          | 56           | 515          | 53           | 435          | 51                | 355          |  |  |        |  |
| BA (m²/ha)       | 62                          | 0.8          | 63           | 1.0          | 50           | 1.0          | 47           | 1.1          | 44           | 1.1            | 42           | 1.3          | 38           | 1.5          | 32           | 1.9               | 26           |  |  |        |  |
| SITE INDEX       |                             | 24           |              | PRESENT AGE  |              |              |              | 60           |              | PRESENT HEIGHT |              |              |              | 28.4 M       |              | HEIGHT IN 5 YEARS |              |  |  | 30.6 M |  |
| VOL (m³/ha)      | 420                         | 40           | 460          | 36           | 371          | 35           | 348          | 34           | 326          | 33             | 313          | 33           | 282          | 32           | 239          | 32                | 197          |  |  |        |  |
| BA (m²/ha)       | 31                          | 0.6          | 32           | 0.7          | 25           | 0.8          | 24           | 0.8          | 22           | 0.8            | 22           | 0.9          | 19           | 1.1          | 16           | 1.4               | 13           |  |  |        |  |
| VOL (m³/ha)      | 455                         | 42           | 497          | 37           | 400          | 36           | 376          | 35           | 352          | 34             | 337          | 33           | 304          | 32           | 257          | 32                | 210          |  |  |        |  |
| BA (m²/ha)       | 34                          | 0.5          | 34           | 0.7          | 27           | 0.7          | 26           | 0.7          | 24           | 0.8            | 23           | 0.9          | 21           | 1.0          | 18           | 1.3               | 14           |  |  |        |  |
| VOL (m³/ha)      | 490                         | 44           | 534          | 39           | 429          | 37           | 403          | 36           | 377          | 35             | 362          | 34           | 326          | 32           | 274          | 32                | 224          |  |  |        |  |
| BA (m²/ha)       | 36                          | 0.5          | 37           | 0.6          | 30           | 0.7          | 28           | 0.7          | 26           | 0.7            | 25           | 0.8          | 22           | 1.0          | 19           | 1.2               | 15           |  |  |        |  |
| VOL (m³/ha)      | 525                         | 47           | 572          | 40           | 459          | 39           | 431          | 37           | 403          | 37             | 386          | 35           | 347          | 33           | 292          | 32                | 238          |  |  |        |  |
| BA (m²/ha)       | 39                          | 0.5          | 39           | 0.6          | 32           | 0.6          | 30           | 0.7          | 28           | 0.7            | 27           | 0.8          | 24           | 0.9          | 20           | 1.1               | 16           |  |  |        |  |
| VOL (m³/ha)      | 560                         | 49           | 609          | 42           | 489          | 40           | 459          | 39           | 429          | 38             | 411          | 36           | 369          | 33           | 310          | 32                | 252          |  |  |        |  |
| BA (m²/ha)       | 41                          | 0.4          | 42           | 0.5          | 34           | 0.6          | 32           | 0.6          | 29           | 0.6            | 28           | 0.7          | 25           | 0.8          | 21           | 1.1               | 17           |  |  |        |  |
| VOL (m³/ha)      | 595                         | 51           | 646          | 44           | 518          | 42           | 486          | 40           | 455          | 39             | 436          | 37           | 391          | 34           | 329          | 32                | 267          |  |  |        |  |
| BA (m²/ha)       | 44                          | 0.4          | 44           | 0.5          | 36           | 0.5          | 33           | 0.6          | 31           | 0.6            | 30           | 0.7          | 27           | 0.8          | 23           | 1.0               | 18           |  |  |        |  |
| VOL (m³/ha)      | 630                         | 54           | 684          | 45           | 548          | 43           | 514          | 41           | 481          | 40             | 460          | 38           | 413          | 35           | 347          | 33                | 281          |  |  |        |  |
| BA (m²/ha)       | 47                          | 0.4          | 47           | 0.5          | 38           | 0.5          | 35           | 0.5          | 33           | 0.6            | 32           | 0.6          | 28           | 0.8          | 24           | 0.9               | 19           |  |  |        |  |
| VOL (m³/ha)      | 665                         | 56           | 721          | 47           | 578          | 45           | 542          | 43           | 507          | 42             | 485          | 39           | 436          | 36           | 365          | 33                | 295          |  |  |        |  |
| BA (m²/ha)       | 49                          | 0.4          | 50           | 0.5          | 40           | 0.5          | 37           | 0.5          | 35           | 0.5            | 33           | 0.6          | 30           | 0.7          | 25           | 0.9               | 20           |  |  |        |  |
| VOL (m³/ha)      | 700                         | 58           | 758          | 49           | 608          | 47           | 570          | 44           | 533          | 43             | 510          | 40           | 458          | 36           | 383          | 33                | 310          |  |  |        |  |
| BA (m²/ha)       | 52                          | 0.3          | 52           | 0.4          | 42           | 0.5          | 39           | 0.5          | 37           | 0.5            | 35           | 0.6          | 31           | 0.7          | 26           | 0.9               | 21           |  |  |        |  |
| VOL (m³/ha)      | 735                         | 61           | 796          | 51           | 637          | 48           | 598          | 46           | 559          | 44             | 535          | 41           | 480          | 37           | 402          | 34                | 324          |  |  |        |  |
| BA (m²/ha)       | 54                          | 0.3          | 55           | 0.4          | 44           | 0.4          | 41           | 0.5          | 38           | 0.5            | 37           | 0.5          | 33           | 0.7          | 28           | 0.8               | 22           |  |  |        |  |

TABLE 3 (continued)

|                             |              | Percent thinning |              |             |              |                       |              |             |              |                          |              |             |              |             |              |             |     |
|-----------------------------|--------------|------------------|--------------|-------------|--------------|-----------------------|--------------|-------------|--------------|--------------------------|--------------|-------------|--------------|-------------|--------------|-------------|-----|
| Stand<br>before<br>thinning | 0            |                  | 20           |             | 25           |                       | 30           |             | 33           |                          | 40           |             | 50           |             | 60           |             |     |
|                             | 5-yr<br>grth | 5-yr<br>y'd      | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd           | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd              | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |     |
| SITE INDEX 24               |              | PRESENT AGE 60   |              |             |              | PRESENT HEIGHT 28.4 M |              |             |              | HEIGHT IN 5 YEARS 30.6 M |              |             |              |             |              |             |     |
| VOL (m <sup>3</sup> /ha)    | 770          | 63               | 833          | 53          | 667          | 50                    | 626          | 47          | 585          | 46                       | 560          | 43          | 502          | 38          | 420          | 34          | 339 |
| BA (m <sup>2</sup> /ha)     | 57           | 0.3              | 57           | 0.4         | 46           | 0.4                   | 43           | 0.4         | 40           | 0.5                      | 39           | 0.5         | 35           | 0.6         | 29           | 0.8         | 23  |
| VOL (m <sup>3</sup> /ha)    | 805          | 66               | 871          | 54          | 697          | 52                    | 654          | 49          | 611          | 47                       | 585          | 44          | 524          | 39          | 439          | 35          | 353 |
| BA (m <sup>2</sup> /ha)     | 60           | 0.3              | 60           | 0.4         | 48           | 0.4                   | 45           | 0.4         | 42           | 0.4                      | 40           | 0.5         | 36           | 0.6         | 30           | 0.7         | 24  |
| VOL (m <sup>3</sup> /ha)    | 840          | 68               | 908          | 56          | 727          | 53                    | 682          | 51          | 637          | 49                       | 610          | 45          | 547          | 40          | 457          | 36          | 368 |
| BA (m <sup>2</sup> /ha)     | 62           | 0.3              | 63           | 0.4         | 50           | 0.4                   | 47           | 0.4         | 44           | 0.4                      | 42           | 0.5         | 38           | 0.6         | 31           | 0.7         | 25  |



Loading red pine tree lengths for transport from Vivian Forest, York County (W. Masters, 1960)

TABLE 3 (continued)



Debarked red pine poles are stored at Orr Lake Forest Headquarters, Simcoe County. (W.D. Marshall, 1963)

| Percent thinning            |              |             |              |             |              |             |                |             |              |             |              |                   |              |             |              |             |     |
|-----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|--------------|-------------------|--------------|-------------|--------------|-------------|-----|
| Stand<br>before<br>thinning | 0            |             | 20           |             | 25           |             | 30             |             | 33           |             | 40           |                   | 50           |             | 60           |             |     |
|                             | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd       | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |     |
| SITE INDEX                  | 26           | PRESENT AGE |              |             |              | 20          | PRESENT HEIGHT |             |              |             | 10.8 M       | HEIGHT IN 5 YEARS |              |             |              | 13.4 M      |     |
| VOL (m³/ha)                 | 105          | 88          | 193          | 93          | 175          | 94          | 171            | 96          | 167          | 97          | 165          | 100               | 160          | 104         | 154          | 110         | 148 |
| BA (m²/ha)                  | 21           | 9.7         | 31           | 11.2        | 28           | 11.7        | 27             | 12.1        | 27           | 12.4        | 26           | 13.2              | 26           | 14.3        | 25           | 15.6        | 24  |
| VOL (m³/ha)                 | 140          | 85          | 225          | 88          | 198          | 89          | 192            | 90          | 186          | 91          | 182          | 93                | 174          | 97          | 164          | 103         | 155 |
| BA (m²/ha)                  | 28           | 7.9         | 36           | 9.4         | 32           | 9.8         | 31             | 10.3        | 30           | 10.6        | 29           | 11.3              | 28           | 12.6        | 26           | 14.0        | 25  |
| VOL (m³/ha)                 | 175          | 86          | 261          | 85          | 224          | 86          | 216            | 87          | 207          | 87          | 202          | 89                | 191          | 92          | 177          | 97          | 164 |
| BA (m²/ha)                  | 35           | 6.7         | 41           | 8.0         | 36           | 8.4         | 34             | 8.8         | 33           | 9.1         | 32           | 9.9               | 31           | 11.1        | 28           | 12.6        | 26  |
| VOL (m³/ha)                 | 210          | 88          | 298          | 86          | 252          | 85          | 241            | 85          | 231          | 85          | 224          | 86                | 210          | 89          | 191          | 93          | 174 |
| BA (m²/ha)                  | 42           | 5.7         | 47           | 6.9         | 40           | 7.3         | 38             | 7.7         | 37           | 8.0         | 36           | 8.7               | 33           | 9.9         | 30           | 11.4        | 28  |
| SITE INDEX                  | 26           | PRESENT AGE |              |             |              | 25          | PRESENT HEIGHT |             |              |             | 13.4 M       | HEIGHT IN 5 YEARS |              |             |              | 16.0 M      |     |
| VOL (m³/ha)                 | 140          | 89          | 229          | 94          | 205          | 96          | 199            | 98          | 194          | 99          | 191          | 102               | 184          | 108         | 175          | 115         | 167 |
| BA (m²/ha)                  | 22           | 8.1         | 31           | 9.5         | 27           | 9.9         | 27             | 10.3        | 26           | 10.6        | 25           | 11.3              | 25           | 12.4        | 23           | 13.7        | 22  |
| VOL (m³/ha)                 | 175          | 87          | 262          | 89          | 228          | 91          | 220            | 92          | 213          | 93          | 208          | 96                | 198          | 101         | 186          | 108         | 174 |
| BA (m²/ha)                  | 28           | 6.9         | 35           | 8.2         | 30           | 8.6         | 29             | 9.0         | 28           | 9.3         | 28           | 9.9               | 26           | 11.1        | 25           | 12.4        | 23  |
| VOL (m³/ha)                 | 210          | 86          | 296          | 87          | 254          | 88          | 244            | 89          | 234          | 89          | 228          | 92                | 215          | 96          | 198          | 102         | 183 |
| BA (m²/ha)                  | 33           | 5.9         | 39           | 7.1         | 34           | 7.5         | 32             | 7.9         | 31           | 8.2         | 30           | 8.8               | 29           | 10.0        | 26           | 11.4        | 24  |
| VOL (m³/ha)                 | 245          | 87          | 332          | 86          | 281          | 86          | 269            | 87          | 256          | 87          | 249          | 89                | 233          | 92          | 212          | 98          | 192 |
| BA (m²/ha)                  | 38           | 5.2         | 44           | 6.3         | 37           | 6.7         | 36             | 7.0         | 34           | 7.3         | 33           | 7.9               | 31           | 9.0         | 28           | 10.4        | 26  |
| VOL (m³/ha)                 | 280          | 90          | 370          | 86          | 309          | 86          | 295            | 86          | 280          | 86          | 272          | 87                | 253          | 90          | 227          | 95          | 203 |
| BA (m²/ha)                  | 44           | 4.6         | 49           | 5.7         | 41           | 6.0         | 39             | 6.3         | 37           | 6.6         | 36           | 7.2               | 34           | 8.2         | 30           | 9.6         | 27  |
| VOL (m³/ha)                 | 315          | 93          | 408          | 88          | 339          | 87          | 322            | 86          | 305          | 86          | 295          | 86                | 273          | 88          | 242          | 92          | 214 |
| BA (m²/ha)                  | 50           | 4.2         | 54           | 5.1         | 45           | 5.4         | 43             | 5.7         | 41           | 6.0         | 39           | 6.5               | 36           | 7.6         | 32           | 8.9         | 29  |

TABLE 3 (continued)

|             |     | Percent thinning            |              |                |              |                       |              |                          |              |             |              |             |              |             |              |             |     |
|-------------|-----|-----------------------------|--------------|----------------|--------------|-----------------------|--------------|--------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|-----|
|             |     | 0                           |              | 20             |              | 25                    |              | 30                       |              | 33          |              | 40          |              | 50          |              | 60          |     |
|             |     | Stand<br>before<br>thinning | 5-yr<br>grth | 5-yr<br>y'd    | 5-yr<br>grth | 5-yr<br>y'd           | 5-yr<br>grth | 5-yr<br>y'd              | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |     |
|             |     | SITE INDEX 26               |              | PRESENT AGE 30 |              | PRESENT HEIGHT 16.0 M |              | HEIGHT IN 5 YEARS 18.6 M |              |             |              |             |              |             |              |             |     |
| VOL (m³/ha) | 210 | 86                          | 296          | 89             | 256          | 91                    | 247          | 92                       | 237          | 93          | 232          | 96          | 220          | 102         | 204          | 110         | 190 |
| BA (m²/ha)  | 28  | 5.9                         | 34           | 7.1            | 29           | 7.4                   | 28           | 7.8                      | 27           | 8.0         | 27           | 8.7         | 25           | 9.7         | 23           | 11.0        | 32  |
| VOL (m³/ha) | 245 | 85                          | 330          | 87             | 281          | 88                    | 270          | 89                       | 259          | 90          | 252          | 92          | 237          | 97          | 217          | 105         | 199 |
| BA (m²/ha)  | 33  | 5.2                         | 38           | 6.3            | 32           | 6.6                   | 31           | 7.0                      | 30           | 7.2         | 29           | 7.8         | 27           | 8.9         | 25           | 10.1        | 23  |
| VOL (m³/ha) | 280 | 86                          | 366          | 86             | 308          | 86                    | 294          | 87                       | 281          | 87          | 273          | 89          | 255          | 94          | 231          | 100         | 209 |
| BA (m²/ha)  | 37  | 4.6                         | 42           | 5.6            | 35           | 5.9                   | 34           | 6.3                      | 32           | 6.5         | 31           | 7.1         | 29           | 8.1         | 26           | 9.4         | 24  |
| VOL (m³/ha) | 315 | 87                          | 402          | 85             | 336          | 85                    | 320          | 86                       | 304          | 86          | 295          | 87          | 274          | 91          | 245          | 97          | 219 |
| BA (m²/ha)  | 42  | 4.2                         | 46           | 5.1            | 38           | 5.4                   | 37           | 5.7                      | 35           | 5.9         | 34           | 6.5         | 31           | 7.5         | 28           | 8.7         | 25  |
| VOL (m³/ha) | 350 | 90                          | 440          | 86             | 365          | 85                    | 346          | 85                       | 328          | 85          | 318          | 86          | 294          | 89          | 261          | 94          | 230 |
| BA (m²/ha)  | 46  | 3.8                         | 50           | 4.7            | 42           | 4.9                   | 40           | 5.2                      | 38           | 5.4         | 36           | 6.0         | 34           | 6.9         | 30           | 8.1         | 26  |
| VOL (m³/ha) | 385 | 92                          | 477          | 87             | 394          | 86                    | 373          | 86                       | 353          | 85          | 341          | 85          | 314          | 87          | 277          | 91          | 242 |
| BA (m²/ha)  | 51  | 3.5                         | 54           | 4.3            | 45           | 4.5                   | 43           | 4.8                      | 40           | 5.0         | 39           | 5.5         | 36           | 6.4         | 22           | 7.6         | 28  |
| VOL (m³/ha) | 420 | 96                          | 516          | 89             | 423          | 87                    | 401          | 86                       | 379          | 86          | 365          | 85          | 335          | 86          | 293          | 89          | 254 |
| BA (m²/ha)  | 56  | 3.2                         | 59           | 4.0            | 48           | 4.2                   | 46           | 4.5                      | 43           | 4.6         | 42           | 5.1         | 38           | 6.0         | 34           | 7.1         | 29  |
|             |     | SITE INDEX 26               |              | PRESENT AGE 35 |              | PRESENT HEIGHT 18.6 M |              | HEIGHT IN 5 YEARS 21.1 M |              |             |              |             |              |             |              |             |     |
| VOL (m³/ha) | 245 | 84                          | 329          | 87             | 282          | 88                    | 270          | 90                       | 260          | 91          | 253          | 94          | 239          | 101         | 220          | 109         | 203 |
| BA (m²/ha)  | 28  | 5.0                         | 33           | 6.0            | 28           | 6.3                   | 27           | 6.7                      | 26           | 6.9         | 25           | 7.4         | 24           | 8.4         | 22           | 9.6         | 20  |
| VOL (m³/ha) | 280 | 83                          | 363          | 85             | 307          | 86                    | 294          | 87                       | 281          | 88          | 273          | 91          | 256          | 96          | 233          | 104         | 212 |
| BA (m²/ha)  | 32  | 4.5                         | 36           | 5.4            | 31           | 5.7                   | 30           | 6.0                      | 28           | 6.2         | 28           | 6.8         | 26           | 7.7         | 23           | 8.9         | 21  |
| VOL (m³/ha) | 315 | 83                          | 398          | 83             | 334          | 84                    | 319          | 85                       | 304          | 86          | 295          | 88          | 274          | 92          | 247          | 100         | 222 |
| BA (m²/ha)  | 36  | 4.0                         | 40           | 4.9            | 34           | 5.2                   | 32           | 5.5                      | 31           | 5.7         | 30           | 6.2         | 28           | 7.1         | 25           | 8.3         | 22  |
| VOL (m³/ha) | 350 | 84                          | 434          | 83             | 362          | 83                    | 344          | 84                       | 327          | 84          | 317          | 86          | 293          | 90          | 262          | 96          | 233 |
| BA (m²/ha)  | 40  | 3.7                         | 44           | 4.5            | 36           | 4.7                   | 35           | 5.0                      | 33           | 5.2         | 32           | 5.7         | 29           | 6.6         | 26           | 7.7         | 23  |
| VOL (m³/ha) | 385 | 86                          | 471          | 83             | 390          | 83                    | 370          | 83                       | 351          | 83          | 339          | 84          | 313          | 87          | 277          | 93          | 244 |
| BA (m²/ha)  | 44  | 3.4                         | 47           | 4.1            | 39           | 4.4                   | 37           | 4.6                      | 35           | 4.8         | 34           | 5.3         | 31           | 6.1         | 28           | 7.3         | 25  |
| VOL (m³/ha) | 420 | 88                          | 508          | 84             | 419          | 83                    | 397          | 83                       | 375          | 83          | 362          | 83          | 333          | 86          | 293          | 91          | 255 |
| BA (m²/ha)  | 48  | 3.1                         | 51           | 3.8            | 42           | 4.0                   | 40           | 4.3                      | 38           | 4.5         | 36           | 4.9         | 33           | 5.7         | 29           | 6.8         | 26  |
| VOL (m³/ha) | 455 | 91                          | 546          | 84             | 448          | 84                    | 424          | 83                       | 400          | 83          | 386          | 83          | 354          | 84          | 309          | 89          | 267 |
| BA (m²/ha)  | 52  | 2.9                         | 55           | 3.6            | 45           | 3.8                   | 43           | 4.0                      | 40           | 4.2         | 39           | 4.6         | 36           | 5.4         | 31           | 6.4         | 27  |
| VOL (m³/ha) | 490 | 94                          | 584          | 87             | 477          | 85                    | 451          | 84                       | 425          | 84          | 410          | 83          | 375          | 84          | 326          | 87          | 279 |
| BA (m²/ha)  | 56  | 2.7                         | 59           | 3.3            | 48           | 3.5                   | 45           | 3.8                      | 43           | 3.9         | 41           | 4.3         | 38           | 5.1         | 33           | 6.1         | 28  |

TABLE 3 (continued)

| Percent thinning |                             |                |             |              |             |              |             |                       |             |              |             |                          |             |              |             |              |             |
|------------------|-----------------------------|----------------|-------------|--------------|-------------|--------------|-------------|-----------------------|-------------|--------------|-------------|--------------------------|-------------|--------------|-------------|--------------|-------------|
|                  | Stand<br>before<br>thinning | 0              |             | 20           |             | 25           |             | 30                    |             | 33           |             | 40                       |             | 50           |             | 60           |             |
|                  |                             | 5-yr<br>grth   | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth          | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth             | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |
| SITE INDEX 26    |                             | PRESENT AGE 40 |             |              |             |              |             | PRESENT HEIGHT 21.1 M |             |              |             | HEIGHT IN 5 YEARS 23.6 M |             |              |             |              |             |
| VOL (m³/ha)      | 280                         | 79             | 359         | 82           | 305         | 83           | 292         | 85                    | 279         | 86           | 272         | 89                       | 255         | 95           | 232         | 104          | 212         |
| BA (m²/ha)       | 28                          | 4.1            | 32          | 5.0          | 27          | 5.2          | 26          | 5.5                   | 25          | 5.7          | 24          | 6.2                      | 23          | 7.1          | 21          | 8.1          | 19          |
| VOL (m³/ha)      | 315                         | 79             | 394         | 80           | 331         | 81           | 316         | 82                    | 301         | 83           | 292         | 86                       | 273         | 91           | 246         | 99           | 222         |
| BA (m²/ha)       | 32                          | 3.7            | 35          | 4.5          | 30          | 4.8          | 28          | 5.0                   | 27          | 5.2          | 26          | 5.7                      | 24          | 6.5          | 22          | 7.6          | 20          |
| VOL (m³/ha)      | 350                         | 79             | 429         | 79           | 358         | 80           | 341         | 81                    | 324         | 81           | 314         | 83                       | 291         | 88           | 260         | 95           | 232         |
| BA (m²/ha)       | 35                          | 3.4            | 38          | 4.1          | 32          | 4.4          | 31          | 4.6                   | 29          | 4.8          | 28          | 5.3                      | 26          | 6.1          | 23          | 7.1          | 21          |
| VOL (m³/ha)      | 385                         | 80             | 465         | 79           | 386         | 79           | 366         | 79                    | 347         | 80           | 336         | 82                       | 310         | 86           | 275         | 92           | 243         |
| BA (m²/ha)       | 39                          | 3.1            | 42          | 3.8          | 35          | 4.0          | 33          | 4.3                   | 31          | 4.4          | 30          | 4.9                      | 28          | 5.6          | 25          | 6.6          | 22          |
| VOL (m³/ha)      | 420                         | 82             | 502         | 79           | 414         | 79           | 392         | 79                    | 371         | 79           | 359         | 80                       | 330         | 83           | 290         | 89           | 254         |
| BA (m²/ha)       | 42                          | 2.9            | 45          | 3.5          | 37          | 3.7          | 35          | 4.0                   | 33          | 4.1          | 32          | 4.5                      | 30          | 5.3          | 26          | 6.3          | 23          |
| VOL (m³/ha)      | 455                         | 84             | 539         | 80           | 442         | 79           | 419         | 79                    | 396         | 79           | 382         | 79                       | 350         | 82           | 306         | 87           | 265         |
| BA (m²/ha)       | 46                          | 2.7            | 48          | 3.3          | 40          | 3.5          | 38          | 3.7                   | 35          | 3.8          | 34          | 4.2                      | 31          | 4.9          | 27          | 5.9          | 24          |
| VOL (m³/ha)      | 490                         | 86             | 576         | 80           | 471         | 80           | 446         | 79                    | 420         | 79           | 405         | 79                       | 371         | 81           | 323         | 85           | 278         |
| BA (m²/ha)       | 49                          | 2.5            | 52          | 3.1          | 42          | 3.2          | 40          | 3.5                   | 38          | 3.6          | 36          | 4.0                      | 33          | 4.6          | 29          | 5.6          | 25          |
| VOL (m³/ha)      | 525                         | 88             | 613         | 82           | 500         | 80           | 473         | 80                    | 445         | 79           | 429         | 79                       | 391         | 80           | 339         | 84           | 290         |
| BA (m²/ha)       | 53                          | 2.3            | 55          | 2.9          | 45          | 3.0          | 42          | 3.2                   | 40          | 3.4          | 38          | 3.7                      | 35          | 4.4          | 30          | 5.3          | 26          |
| VOL (m³/ha)      | 560                         | 91             | 651         | 83           | 530         | 82           | 500         | 80                    | 471         | 80           | 453         | 79                       | 413         | 79           | 356         | 82           | 303         |
| BA (m²/ha)       | 56                          | 2.2            | 58          | 2.7          | 47          | 2.9          | 45          | 3.1                   | 42          | 3.2          | 41          | 3.5                      | 37          | 4.1          | 32          | 5.0          | 27          |
| VOL (m³/ha)      | 595                         | 93             | 688         | 85           | 560         | 83           | 528         | 81                    | 496         | 81           | 477         | 79                       | 434         | 79           | 373         | 81           | 316         |
| BA (m²/ha)       | 60                          | 2.1            | 62          | 2.6          | 50          | 2.7          | 47          | 2.9                   | 44          | 3.0          | 43          | 3.3                      | 39          | 3.9          | 33          | 4.8          | 28          |
| SITE INDEX 26    |                             | PRESENT AGE 45 |             |              |             |              |             | PRESENT HEIGHT 23.6 M |             |              |             | HEIGHT IN 5 YEARS 26.0 M |             |              |             |              |             |
| VOL (m³/ha)      | 350                         | 72             | 422         | 73           | 352         | 74           | 335         | 75                    | 318         | 75           | 308         | 78                       | 285         | 83           | 255         | 90           | 226         |
| BA (m²/ha)       | 31                          | 2.9            | 34          | 3.6          | 29          | 3.8          | 27          | 4.0                   | 26          | 4.1          | 25          | 4.5                      | 23          | 5.2          | 21          | 6.1          | 18          |
| VOL (m³/ha)      | 385                         | 73             | 458         | 72           | 379         | 73           | 360         | 73                    | 341         | 74           | 330         | 76                       | 304         | 80           | 269         | 87           | 237         |
| BA (m²/ha)       | 34                          | 2.7            | 37          | 3.3          | 31          | 3.5          | 29          | 3.7                   | 28          | 3.8          | 27          | 4.2                      | 25          | 4.9          | 22          | 5.8          | 19          |
| VOL (m³/ha)      | 420                         | 74             | 494         | 72           | 407         | 72           | 386         | 73                    | 365         | 73           | 352         | 74                       | 324         | 78           | 285         | 84           | 248         |
| BA (m²/ha)       | 38                          | 2.5            | 40          | 3.0          | 33          | 3.2          | 31          | 3.4                   | 30          | 3.6          | 29          | 3.9                      | 26          | 4.5          | 23          | 5.4          | 20          |
| VOL (m³/ha)      | 455                         | 76             | 531         | 73           | 435         | 72           | 412         | 72                    | 389         | 72           | 375         | 73                       | 344         | 76           | 301         | 82           | 260         |
| BA (m²/ha)       | 41                          | 2.3            | 43          | 2.8          | 35          | 3.0          | 33          | 3.2                   | 32          | 3.3          | 30          | 3.7                      | 28          | 4.3          | 24          | 5.1          | 21          |
| VOL (m³/ha)      | 490                         | 77             | 567         | 73           | 464         | 73           | 439         | 72                    | 414         | 72           | 399         | 73                       | 364         | 75           | 317         | 80           | 272         |
| BA (m²/ha)       | 44                          | 2.1            | 46          | 2.6          | 38          | 2.8          | 36          | 3.0                   | 34          | 3.1          | 32          | 3.4                      | 30          | 4.0          | 26          | 4.8          | 22          |
| VOL (m³/ha)      | 525                         | 79             | 604         | 74           | 493         | 73           | 466         | 73                    | 438         | 72           | 422         | 72                       | 385         | 74           | 333         | 78           | 284         |
| BA (m²/ha)       | 47                          | 2.0            | 49          | 2.5          | 40          | 2.6          | 38          | 2.8                   | 36          | 2.9          | 34          | 3.2                      | 31          | 3.8          | 27          | 4.6          | 23          |
| VOL (m³/ha)      | 560                         | 82             | 642         | 75           | 522         | 74           | 493         | 73                    | 463         | 73           | 446         | 72                       | 406         | 73           | 350         | 76           | 297         |
| BA (m²/ha)       | 50                          | 1.9            | 52          | 2.3          | 42          | 2.5          | 40          | 2.6                   | 38          | 2.7          | 36          | 3.0                      | 33          | 3.6          | 28          | 4.3          | 24          |
| VOL (m³/ha)      | 595                         | 84             | 679         | 77           | 551         | 75           | 520         | 74                    | 489         | 73           | 470         | 73                       | 427         | 73           | 367         | 75           | 310         |
| BA (m²/ha)       | 53                          | 1.8            | 55          | 2.2          | 45          | 2.3          | 42          | 2.5                   | 40          | 2.6          | 38          | 2.9                      | 35          | 3.4          | 30          | 4.1          | 25          |
| VOL (m³/ha)      | 630                         | 86             | 716         | 78           | 581         | 76           | 547         | 75                    | 514         | 74           | 494         | 73                       | 448         | 72           | 384         | 74           | 323         |
| BA (m²/ha)       | 56                          | 1.7            | 58          | 2.1          | 47          | 2.2          | 44          | 2.4                   | 42          | 2.5          | 40          | 2.7                      | 36          | 3.2          | 31          | 3.9          | 26          |
| VOL (m³/ha)      | 665                         | 89             | 754         | 80           | 611         | 78           | 575         | 76                    | 540         | 75           | 519         | 73                       | 470         | 72           | 402         | 74           | 336         |
| BA (m²/ha)       | 60                          | 1.6            | 61          | 2.0          | 50          | 2.1          | 47          | 2.2                   | 44          | 2.3          | 42          | 2.6                      | 38          | 3.1          | 33          | 3.7          | 27          |
| VOL (m³/ha)      | 700                         | 92             | 792         | 81           | 640         | 79           | 603         | 77                    | 566         | 76           | 543         | 74                       | 492         | 72           | 419         | 73           | 350         |
| BA (m²/ha)       | 63                          | 1.5            | 64          | 1.9          | 52          | 2.0          | 49          | 2.1                   | 46          | 2.2          | 44          | 2.5                      | 40          | 2.9          | 34          | 3.6          | 28          |

TABLE 3 (continued)

|             |                             | Percent thinning |             |              |             |              |             |              |                |              |             |              |             |                   |             |              |             |        |
|-------------|-----------------------------|------------------|-------------|--------------|-------------|--------------|-------------|--------------|----------------|--------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------|
|             | Stand<br>before<br>thinning | 0                |             | 20           |             | 25           |             | 30           |                | 33           |             | 40           |             | 50                |             | 60           |             |        |
|             |                             | 5-yr<br>grth     | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd    | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth      | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |        |
|             | SITE INDEX                  | 26               |             | PRESENT AGE  |             |              |             | 50           | PRESENT HEIGHT |              |             |              | 26.0 M      | HEIGHT IN 5 YEARS |             |              |             | 28.4 M |
| VOL (m³/ha) | 385                         | 64               | 449         | 63           | 369         | 63           | 350         | 63           | 331            | 64           | 320         | 65           | 294         | 69                | 258         | 75           | 225         |        |
| BA (m²/ha)  | 31                          | 2.1              | 33          | 2.5          | 27          | 2.7          | 26          | 2.8          | 25             | 3.0          | 24          | 3.3          | 22          | 3.8               | 19          | 4.5          | 17          |        |
| VOL (m³/ha) | 420                         | 65               | 485         | 63           | 397         | 63           | 376         | 63           | 355            | 63           | 342         | 64           | 314         | 67                | 274         | 72           | 237         |        |
| BA (m²/ha)  | 34                          | 1.9              | 36          | 2.3          | 29          | 2.5          | 28          | 2.6          | 26             | 2.7          | 25          | 3.0          | 23          | 3.5               | 20          | 4.2          | 18          |        |
| VOL (m³/ha) | 455                         | 66               | 521         | 63           | 426         | 63           | 402         | 63           | 379            | 63           | 366         | 63           | 334         | 65                | 290         | 70           | 249         |        |
| BA (m²/ha)  | 37                          | 1.8              | 39          | 2.2          | 32          | 2.3          | 30          | 2.5          | 28             | 2.6          | 27          | 2.8          | 25          | 3.3               | 21          | 4.0          | 18          |        |
| VOL (m³/ha) | 490                         | 68               | 558         | 64           | 454         | 63           | 429         | 63           | 404            | 63           | 389         | 63           | 354         | 64                | 306         | 68           | 261         |        |
| BA (m²/ha)  | 40                          | 1.6              | 41          | 2.0          | 34          | 2.2          | 32          | 2.3          | 30             | 2.4          | 29          | 2.6          | 26          | 3.1               | 23          | 3.7          | 19          |        |
| VOL (m³/ha) | 525                         | 70               | 595         | 65           | 483         | 64           | 456         | 63           | 429            | 63           | 413         | 63           | 375         | 64                | 323         | 67           | 273         |        |
| BA (m²/ha)  | 43                          | 1.5              | 44          | 1.9          | 36          | 2.0          | 34          | 2.2          | 32             | 2.2          | 31          | 2.5          | 28          | 2.9               | 24          | 3.5          | 20          |        |
| VOL (m³/ha) | 560                         | 72               | 632         | 66           | 512         | 65           | 483         | 64           | 454            | 63           | 436         | 63           | 396         | 63                | 340         | 66           | 286         |        |
| BA (m²/ha)  | 45                          | 1.4              | 47          | 1.8          | 38          | 1.9          | 36          | 2.0          | 34             | 2.1          | 32          | 2.3          | 29          | 2.8               | 25          | 3.4          | 21          |        |
| VOL (m³/ha) | 595                         | 74               | 669         | 67           | 542         | 66           | 510         | 64           | 479            | 64           | 461         | 63           | 417         | 63                | 357         | 65           | 299         |        |
| BA (m²/ha)  | 48                          | 1.4              | 50          | 1.7          | 40          | 1.8          | 38          | 1.9          | 36             | 2.0          | 34          | 2.2          | 31          | 2.6               | 26          | 3.2          | 22          |        |
| VOL (m³/ha) | 630                         | 76               | 706         | 68           | 571         | 67           | 538         | 65           | 505            | 65           | 485         | 63           | 439         | 63                | 375         | 64           | 312         |        |
| BA (m²/ha)  | 51                          | 1.3              | 52          | 1.6          | 42          | 1.7          | 40          | 1.8          | 37             | 1.9          | 36          | 2.1          | 33          | 2.5               | 28          | 3.0          | 23          |        |
| VOL (m³/ha) | 665                         | 78               | 743         | 70           | 601         | 68           | 565         | 66           | 530            | 66           | 509         | 64           | 460         | 63                | 392         | 63           | 326         |        |
| BA (m²/ha)  | 54                          | 1.2              | 55          | 1.5          | 45          | 1.6          | 42          | 1.7          | 39             | 1.8          | 38          | 2.0          | 34          | 2.4               | 29          | 2.9          | 24          |        |
| VOL (m³/ha) | 700                         | 81               | 781         | 71           | 630         | 69           | 593         | 68           | 556            | 67           | 534         | 65           | 482         | 63                | 410         | 63           | 339         |        |
| BA (m²/ha)  | 57                          | 1.2              | 58          | 1.4          | 47          | 1.5          | 44          | 1.6          | 41             | 1.7          | 40          | 1.9          | 36          | 2.3               | 30          | 2.8          | 25          |        |
| VOL (m³/ha) | 735                         | 83               | 818         | 73           | 660         | 71           | 621         | 69           | 582            | 68           | 558         | 65           | 504         | 63                | 428         | 63           | 353         |        |
| BA (m²/ha)  | 60                          | 1.1              | 61          | 1.4          | 49          | 1.5          | 46          | 1.6          | 43             | 1.6          | 41          | 1.8          | 37          | 2.2               | 32          | 2.7          | 26          |        |
| VOL (m³/ha) | 770                         | 86               | 856         | 75           | 690         | 73           | 649         | 70           | 607            | 69           | 583         | 66           | 526         | 63                | 445         | 63           | 367         |        |
| BA (m²/ha)  | 62                          | 1.1              | 63          | 1.3          | 51          | 1.4          | 48          | 1.5          | 45             | 1.6          | 43          | 1.7          | 39          | 2.1               | 33          | 2.5          | 27          |        |
|             | SITE INDEX                  | 26               |             | PRESENT AGE  |             |              |             | 55           | PRESENT HEIGHT |              |             |              | 28.4 M      | HEIGHT IN 5 YEARS |             |              |             | 30.8 M |
| VOL (m³/ha) | 420                         | 52               | 472         | 48           | 383         | 48           | 361         | 47           | 340            | 47           | 327         | 47           | 297         | 49                | 256         | 52           | 216         |        |
| BA (m²/ha)  | 31                          | 1.1              | 32          | 1.4          | 26          | 1.5          | 25          | 1.6          | 23             | 1.6          | 22          | 1.8          | 20          | 2.1               | 17          | 2.6          | 15          |        |
| VOL (m³/ha) | 455                         | 53               | 508         | 49           | 412         | 48           | 388         | 48           | 365            | 48           | 351         | 47           | 318         | 48                | 272         | 50           | 229         |        |
| BA (m²/ha)  | 34                          | 1.0              | 35          | 1.3          | 28          | 1.4          | 27          | 1.5          | 25             | 1.5          | 24          | 1.7          | 22          | 2.0               | 19          | 2.4          | 16          |        |
| VOL (m³/ha) | 490                         | 55               | 545         | 50           | 441         | 49           | 415         | 49           | 390            | 48           | 374         | 47           | 339         | 48                | 290         | 49           | 242         |        |
| BA (m²/ha)  | 36                          | 1.0              | 37          | 1.2          | 30          | 1.3          | 28          | 1.4          | 27             | 1.4          | 26          | 1.6          | 23          | 1.9               | 20          | 2.3          | 16          |        |
| VOL (m³/ha) | 525                         | 57               | 582         | 52           | 470         | 50           | 443         | 49           | 415            | 49           | 399         | 48           | 360         | 47                | 307         | 49           | 255         |        |
| BA (m²/ha)  | 39                          | 0.9              | 40          | 1.1          | 32          | 1.2          | 30          | 1.3          | 28             | 1.3          | 27          | 1.5          | 25          | 1.8               | 21          | 2.1          | 17          |        |
| VOL (m³/ha) | 560                         | 59               | 619         | 53           | 500         | 52           | 470         | 50           | 440            | 50           | 423         | 48           | 382         | 47                | 324         | 48           | 268         |        |
| BA (m²/ha)  | 41                          | 0.8              | 42          | 1.1          | 34          | 1.1          | 32          | 1.2          | 30             | 1.3          | 29          | 1.4          | 26          | 1.7               | 22          | 2.0          | 18          |        |
| VOL (m³/ha) | 595                         | 62               | 657         | 54           | 529         | 53           | 498         | 51           | 466            | 51           | 447         | 49           | 404         | 48                | 342         | 48           | 282         |        |
| BA (m²/ha)  | 44                          | 0.8              | 45          | 1.0          | 36          | 1.1          | 34          | 1.1          | 32             | 1.2          | 31          | 1.3          | 28          | 1.6               | 23          | 1.9          | 19          |        |
| VOL (m³/ha) | 630                         | 64               | 694         | 56           | 559         | 54           | 525         | 53           | 492            | 52           | 472         | 50           | 425         | 48                | 360         | 47           | 296         |        |
| BA (m²/ha)  | 47                          | 0.8              | 47          | 0.9          | 38          | 1.0          | 36          | 1.1          | 34             | 1.1          | 32          | 1.2          | 29          | 1.5               | 25          | 1.8          | 20          |        |
| VOL (m³/ha) | 665                         | 66               | 731         | 58           | 588         | 56           | 553         | 54           | 517            | 53           | 496         | 51           | 447         | 48                | 378         | 47           | 310         |        |
| BA (m²/ha)  | 49                          | 0.7              | 50          | 0.9          | 40          | 1.0          | 38          | 1.0          | 35             | 1.1          | 34          | 1.2          | 31          | 1.4               | 26          | 1.7          | 21          |        |
| VOL (m³/ha) | 700                         | 69               | 769         | 59           | 618         | 57           | 581         | 55           | 543            | 54           | 521         | 51           | 469         | 49                | 396         | 47           | 324         |        |
| BA (m²/ha)  | 52                          | 0.7              | 53          | 0.9          | 42          | 0.9          | 40          | 1.0          | 37             | 1.0          | 36          | 1.1          | 32          | 1.3               | 27          | 1.7          | 22          |        |

TABLE 3 (continued)

|                          | Stand<br>before<br>thinning | Percent thinning |             |                |             |              |             |                       |             |              |             |                          |             |              |             |              |             |
|--------------------------|-----------------------------|------------------|-------------|----------------|-------------|--------------|-------------|-----------------------|-------------|--------------|-------------|--------------------------|-------------|--------------|-------------|--------------|-------------|
|                          |                             | 0                |             | 20             |             | 25           |             | 30                    |             | 33           |             | 40                       |             | 50           |             | 60           |             |
|                          |                             | 5-yr<br>grth     | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth          | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth             | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
|                          | SITE INDEX                  | 26               |             | PRESENT AGE 55 |             |              |             | PRESENT HEIGHT 28.4 M |             |              |             | HEIGHT IN 5 YEARS 30.8 M |             |              |             |              |             |
| VOL (m <sup>3</sup> /ha) | 735                         | 71               | 806         | 61             | 648         | 59           | 608         | 57                    | 569         | 55           | 546         | 52                       | 491         | 49           | 414         | 47           | 338         |
| BA (m <sup>2</sup> /ha)  | 54                          | 0.7              | 55          | 0.8            | 44          | 0.9          | 42          | 0.9                   | 39          | 1.0          | 37          | 1.1                      | 34          | 1.3          | 28          | 1.6          | 23          |
| VOL (m <sup>3</sup> /ha) | 770                         | 74               | 844         | 63             | 678         | 60           | 636         | 58                    | 595         | 57           | 571         | 54                       | 513         | 50           | 432         | 48           | 352         |
| BA (m <sup>2</sup> /ha)  | 57                          | 0.6              | 58          | 0.8            | 46          | 0.8          | 43          | 0.9                   | 41          | 0.9          | 39          | 1.0                      | 35          | 1.2          | 30          | 1.5          | 24          |
| VOL (m <sup>3</sup> /ha) | 805                         | 76               | 881         | 65             | 708         | 62           | 664         | 59                    | 621         | 58           | 595         | 55                       | 535         | 51           | 450         | 48           | 366         |
| BA (m <sup>2</sup> /ha)  | 60                          | 0.6              | 60          | 0.7            | 48          | 0.8          | 45          | 0.8                   | 42          | 0.9          | 41          | 1.0                      | 37          | 1.2          | 31          | 1.5          | 25          |
| VOL (m <sup>3</sup> /ha) | 840                         | 79               | 919         | 67             | 737         | 64           | 692         | 61                    | 647         | 59           | 620         | 56                       | 557         | 51           | 468         | 48           | 381         |
| BA (m <sup>2</sup> /ha)  | 62                          | 0.6              | 63          | 0.7            | 50          | 0.8          | 47          | 0.8                   | 44          | 0.8          | 42          | 0.9                      | 38          | 1.1          | 32          | 1.4          | 26          |
|                          | SITE INDEX                  | 26               |             | PRESENT AGE 60 |             |              |             | PRESENT HEIGHT 30.8 M |             |              |             | HEIGHT IN 5 YEARS 33.1 M |             |              |             |              |             |
| VOL (m <sup>3</sup> /ha) | 455                         | 36               | 491         | 30             | 392         | 28           | 368         | 26                    | 343         | 25           | 328         | 23                       | 294         | 20           | 245         | 18           | 196         |
| BA (m <sup>2</sup> /ha)  | 31                          | 0.1              | 31          | 0.1            | 25          | 0.1          | 23          | 0.1                   | 22          | 0.2          | 21          | 0.2                      | 19          | 0.2          | 15          | 0.3          | 12          |
| VOL (m <sup>3</sup> /ha) | 490                         | 39               | 529         | 32             | 422         | 30           | 396         | 28                    | 369         | 27           | 353         | 25                       | 316         | 21           | 263         | 18           | 211         |
| BA (m <sup>2</sup> /ha)  | 33                          | 0.1              | 34          | 0.1            | 27          | 0.1          | 25          | 0.1                   | 23          | 0.1          | 22          | 0.2                      | 20          | 0.2          | 17          | 0.2          | 13          |
| VOL (m <sup>3</sup> /ha) | 525                         | 41               | 566         | 34             | 452         | 32           | 424         | 30                    | 396         | 29           | 378         | 26                       | 339         | 23           | 282         | 19           | 226         |
| BA (m <sup>2</sup> /ha)  | 36                          | 0.1              | 36          | 0.1            | 29          | 0.1          | 27          | 0.1                   | 25          | 0.1          | 24          | 0.1                      | 21          | 0.2          | 18          | 0.2          | 14          |
| VOL (m <sup>3</sup> /ha) | 560                         | 44               | 604         | 36             | 482         | 34           | 452         | 32                    | 422         | 30           | 404         | 28                       | 361         | 24           | 301         | 20           | 240         |
| BA (m <sup>2</sup> /ha)  | 38                          | 0.1              | 38          | 0.1            | 31          | 0.1          | 29          | 0.1                   | 27          | 0.1          | 26          | 0.1                      | 23          | 0.2          | 19          | 0.2          | 15          |
| VOL (m <sup>3</sup> /ha) | 595                         | 47               | 642         | 38             | 513         | 36           | 480         | 33                    | 448         | 32           | 429         | 29                       | 384         | 25           | 319         | 21           | 255         |
| BA (m <sup>2</sup> /ha)  | 41                          | 0.1              | 41          | 0.1            | 32          | 0.1          | 30          | 0.1                   | 28          | 0.1          | 27          | 0.1                      | 24          | 0.2          | 20          | 0.2          | 16          |
| VOL (m <sup>3</sup> /ha) | 630                         | 49               | 679         | 40             | 543         | 37           | 508         | 35                    | 474         | 34           | 454         | 31                       | 406         | 26           | 338         | 22           | 270         |
| BA (m <sup>2</sup> /ha)  | 43                          | 0.1              | 43          | 0.1            | 34          | 0.1          | 32          | 0.1                   | 30          | 0.1          | 29          | 0.1                      | 26          | 0.1          | 21          | 0.2          | 17          |
| VOL (m <sup>3</sup> /ha) | 665                         | 52               | 717         | 42             | 573         | 39           | 537         | 37                    | 501         | 35           | 479         | 32                       | 429         | 27           | 357         | 23           | 285         |
| BA (m <sup>2</sup> /ha)  | 45                          | 0.1              | 45          | 0.1            | 36          | 0.1          | 34          | 0.1                   | 32          | 0.1          | 30          | 0.1                      | 27          | 0.1          | 23          | 0.2          | 18          |
| VOL (m <sup>3</sup> /ha) | 700                         | 54               | 754         | 44             | 603         | 41           | 565         | 39                    | 527         | 37           | 504         | 34                       | 451         | 29           | 376         | 24           | 300         |
| BA (m <sup>2</sup> /ha)  | 48                          | 0.1              | 48          | 0.1            | 38          | 0.1          | 36          | 0.1                   | 33          | 0.1          | 32          | 0.1                      | 29          | 0.1          | 24          | 0.2          | 19          |
| VOL (m <sup>3</sup> /ha) | 735                         | 57               | 792         | 46             | 633         | 43           | 593         | 40                    | 553         | 39           | 529         | 35                       | 474         | 30           | 394         | 25           | 315         |
| BA (m <sup>2</sup> /ha)  | 50                          | 0.1              | 50          | 0.1            | 40          | 0.1          | 38          | 0.1                   | 35          | 0.1          | 34          | 0.1                      | 30          | 0.1          | 25          | 0.2          | 20          |
| VOL (m <sup>3</sup> /ha) | 770                         | 60               | 830         | 48             | 663         | 45           | 621         | 42                    | 579         | 41           | 554         | 37                       | 496         | 31           | 413         | 26           | 330         |
| BA (m <sup>2</sup> /ha)  | 53                          | 0.1              | 53          | 0.1            | 42          | 0.1          | 39          | 0.1                   | 37          | 0.1          | 35          | 0.1                      | 31          | 0.1          | 26          | 0.2          | 21          |
| VOL (m <sup>3</sup> /ha) | 805                         | 62               | 867         | 50             | 693         | 47           | 649         | 44                    | 606         | 42           | 580         | 38                       | 519         | 32           | 432         | 27           | 345         |
| BA (m <sup>2</sup> /ha)  | 55                          | 0.1              | 55          | 0.1            | 44          | 0.1          | 41          | 0.1                   | 38          | 0.1          | 37          | 0.1                      | 33          | 0.1          | 27          | 0.1          | 22          |
| VOL (m <sup>3</sup> /ha) | 840                         | 65               | 905         | 52             | 723         | 49           | 678         | 46                    | 632         | 44           | 605         | 40                       | 541         | 34           | 451         | 27           | 360         |
| BA (m <sup>2</sup> /ha)  | 57                          | 0.1              | 57          | 0.1            | 46          | 0.1          | 43          | 0.1                   | 40          | 0.1          | 38          | 0.1                      | 34          | 0.1          | 29          | 0.1          | 23          |
| VOL (m <sup>3</sup> /ha) | 875                         | 68               | 943         | 54             | 753         | 51           | 706         | 48                    | 658         | 46           | 630         | 41                       | 564         | 35           | 469         | 28           | 375         |
| BA (m <sup>2</sup> /ha)  | 60                          | 0.1              | 60          | 0.1            | 48          | 0.1          | 45          | 0.1                   | 42          | 0.1          | 40          | 0.1                      | 36          | 0.1          | 30          | 0.1          | 24          |
| VOL (m <sup>3</sup> /ha) | 910                         | 70               | 980         | 56             | 783         | 53           | 734         | 50                    | 685         | 48           | 655         | 43                       | 586         | 36           | 488         | 29           | 390         |
| BA (m <sup>2</sup> /ha)  | 62                          | 0.1              | 62          | 0.1            | 50          | 0.1          | 47          | 0.1                   | 43          | 0.1          | 42          | 0.1                      | 37          | 0.1          | 31          | 0.1          | 25          |

## Individual Tree Volume (Table 4)

The fourth table is a typical standard volume table relating gross total underbark volume ( $m^3$ ) to the diameter (cm) and total height (m) of a red pine tree. It may be used to estimate the volumes of individual trees or, with the help of a height/diameter curve, to develop a local volume table from a sample of trees.

The following steps are necessary to use the table:

1. The diameter at breast height (outside bark) of the tree must be obtained.
2. The total height of the tree (including top and stump) must be determined.
3. Enter the table with the proper diameter and height and interpolate the volume from the figures presented.

TABLE 4 Individual tree red pine standard volume table

| Dbh.ob<br>(cm) | Gross total volume ( $m^3$ ) |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|----------------|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                | Total height (m)             |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|                | 4                            | 6      | 8      | 10     | 12     | 14     | 16     | 18     | 20     | 22     | 24     | 26     | 28     | 30     | 32     |
| 4              | 0.0033                       | 0.0035 | 0.0037 | 0.0039 | 0.0040 | 0.0042 | 0.0044 | 0.0046 | 0.0047 | 0.0049 | 0.0051 | 0.0053 | 0.0054 | 0.0056 | 0.0058 |
| 6              | 0.0065                       | 0.0088 | 0.0111 | 0.0135 | 0.0158 | 0.0181 | 0.0204 | 0.0227 | 0.0250 | 0.0274 | 0.0297 | 0.0320 | 0.0343 | 0.0366 | 0.0390 |
| 8              | 0.0103                       | 0.0153 | 0.0204 | 0.0254 | 0.0304 | 0.0354 | 0.0405 | 0.0455 | 0.0505 | 0.0555 | 0.0605 | 0.0656 | 0.0706 | 0.0756 | 0.0806 |
| 10             | 0.0148                       | 0.0231 | 0.0314 | 0.0397 | 0.0479 | 0.0562 | 0.0645 | 0.0728 | 0.0811 | 0.0894 | 0.0977 | 0.1060 | 0.1143 | 0.1226 | 0.1308 |
| 12             | 0.0199                       | 0.0320 | 0.0442 | 0.0563 | 0.0684 | 0.0805 | 0.0926 | 0.1047 | 0.1169 | 0.1290 | 0.1411 | 0.1532 | 0.1653 | 0.1775 | 0.1896 |
| 14             | 0.0257                       | 0.0422 | 0.0587 | 0.0753 | 0.0918 | 0.1083 | 0.1248 | 0.1413 | 0.1578 | 0.1743 | 0.1908 | 0.2073 | 0.2238 | 0.2403 | 0.2568 |
| 16             | 0.0322                       | 0.0537 | 0.0751 | 0.0966 | 0.1180 | 0.1395 | 0.1609 | 0.1824 | 0.2038 | 0.2253 | 0.2467 | 0.2682 | 0.2896 | 0.3111 | 0.3325 |
| 18             | 0.0393                       | 0.0663 | 0.0933 | 0.1202 | 0.1472 | 0.1742 | 0.2011 | 0.2281 | 0.2550 | 0.2820 | 0.3090 | 0.3359 | 0.3629 | 0.3898 | 0.4168 |
| 20             | 0.0472                       | 0.0802 | 0.1132 | 0.1462 | 0.1793 | 0.2123 | 0.2453 | 0.2784 | 0.3114 | 0.3444 | 0.3775 | 0.4105 | 0.4435 | 0.4765 | 0.5096 |
| 22             | 0.0556                       | 0.0953 | 0.1349 | 0.1746 | 0.2143 | 0.2539 | 0.2936 | 0.3332 | 0.3729 | 0.4126 | 0.4522 | 0.4919 | 0.5315 | 0.5712 | 0.6109 |
| 24             | 0.0648                       | 0.1116 | 0.1585 | 0.2053 | 0.2522 | 0.2990 | 0.3459 | 0.3927 | 0.4396 | 0.4864 | 0.5333 | 0.5801 | 0.6270 | 0.6738 | 0.7207 |
| 26             | 0.0745                       | 0.1292 | 0.1838 | 0.2348 | 0.2930 | 0.3476 | 0.4022 | 0.4568 | 0.5114 | 0.5660 | 0.6206 | 0.6752 | 0.7298 | 0.7844 | 0.8390 |
| 28             | 0.0850                       | 0.1479 | 0.2108 | 0.2738 | 0.3367 | 0.3996 | 0.4625 | 0.5254 | 0.5883 | 0.6512 | 0.7142 | 0.7771 | 0.8400 | 0.9029 | 0.9658 |
| 30             | 0.0961                       | 0.1679 | 0.2397 | 0.3115 | 0.3833 | 0.4551 | 0.5269 | 0.5986 | 0.6704 | 0.7422 | 0.8140 | 0.8858 | 0.9576 | 1.0294 | 1.1012 |
| 32             | 0.1079                       | 0.1891 | 0.2704 | 0.3516 | 0.4328 | 0.5140 | 0.5953 | 0.6765 | 0.7577 | 0.8389 | 0.9201 | 1.0014 | 1.0826 | 1.1638 | 1.2450 |
| 34             | 0.1204                       | 0.2116 | 0.3028 | 0.3940 | 0.4852 | 0.5765 | 0.6677 | 0.7589 | 0.8501 | 0.9413 | 1.0325 | 1.1237 | 1.2150 | 1.3062 | 1.3974 |
| 36             | 0.1335                       | 0.2353 | 0.3370 | 0.4388 | 0.5406 | 0.6424 | 0.7441 | 0.8459 | 0.9477 | 1.0494 | 1.1512 | 1.2530 | 1.3547 | 1.4565 | 1.5583 |
| 38             | 0.1473                       | 0.2602 | 0.3731 | 0.4859 | 0.5988 | 0.7117 | 0.8246 | 0.9375 | 1.0504 | 1.1633 | 1.2761 | 1.3890 | 1.5019 | 1.6148 | 1.7277 |
| 40             | 0.1617                       | 0.2863 | 0.4109 | 0.5354 | 0.6600 | 0.7845 | 0.9091 | 1.0337 | 1.1582 | 1.2828 | 1.4073 | 1.5319 | 1.6565 | 1.7810 | 1.9056 |

## Site Index (Table 5)

Site index is an estimate of stand productivity based on the measured stand dominant height at age 50. Site index is often used as an entering variable in growth and yield tables, as it has been in Tables 1 and 2. Table 5 should prove useful in estimating the site index of red pine plantation stands that have not yet attained the age of 50 years.

Site index may also be obtained graphically from the corresponding chart (Figure 1).

The following steps are necessary to use the site index table or the chart:

1. Determine the stand age and the stand dominant height.
2. Enter the table or chart with the proper age and dominant height and interpolate the resulting site index from the figures presented.

TABLE 5 Site index for red pine plantations

| Age<br>(years) | Stand dominant height (m) at age 50 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------|-------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                | Present height (m)                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                | 2                                   | 4  | 6  | 8  | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 |
| 20             | 13                                  | 15 | 18 | 21 | 24 | 26 | 29 | 32 | 35 |    |    |    |    |    |    |    |    |
| 22             | 11                                  | 14 | 17 | 19 | 22 | 25 | 27 | 30 | 33 |    |    |    |    |    |    |    |    |
| 24             | 10                                  | 13 | 15 | 18 | 21 | 23 | 26 | 28 | 31 | 33 |    |    |    |    |    |    |    |
| 26             |                                     | 12 | 14 | 17 | 19 | 22 | 24 | 27 | 29 | 32 | 34 |    |    |    |    |    |    |
| 28             |                                     | 11 | 13 | 16 | 18 | 20 | 23 | 25 | 28 | 30 | 32 | 35 |    |    |    |    |    |
| 30             |                                     | 10 | 12 | 15 | 17 | 19 | 22 | 24 | 26 | 29 | 31 | 33 |    |    |    |    |    |
| 32             |                                     |    | 11 | 14 | 16 | 18 | 21 | 23 | 25 | 27 | 30 | 32 | 34 |    |    |    |    |
| 34             |                                     |    | 11 | 13 | 15 | 17 | 20 | 22 | 24 | 26 | 29 | 31 | 33 |    |    |    |    |
| 36             |                                     |    | 10 | 12 | 14 | 16 | 19 | 21 | 23 | 25 | 27 | 30 | 32 | 34 |    |    |    |
| 38             |                                     |    |    | 11 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 29 | 31 | 33 |    |    |    |
| 40             |                                     |    |    | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 26 | 28 | 30 | 32 | 34 |    |    |
| 42             |                                     |    |    | 10 | 12 | 14 | 16 | 18 | 21 | 23 | 25 | 27 | 29 | 31 | 33 |    |    |
| 44             |                                     |    |    |    | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 |    |
| 46             |                                     |    |    |    | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 |    |
| 48             |                                     |    |    |    | 10 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 | 35 |
| 50             |                                     |    |    |    | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 |
| 52             |                                     |    |    |    |    | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 |
| 54             |                                     |    |    |    |    | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | 31 | 33 |

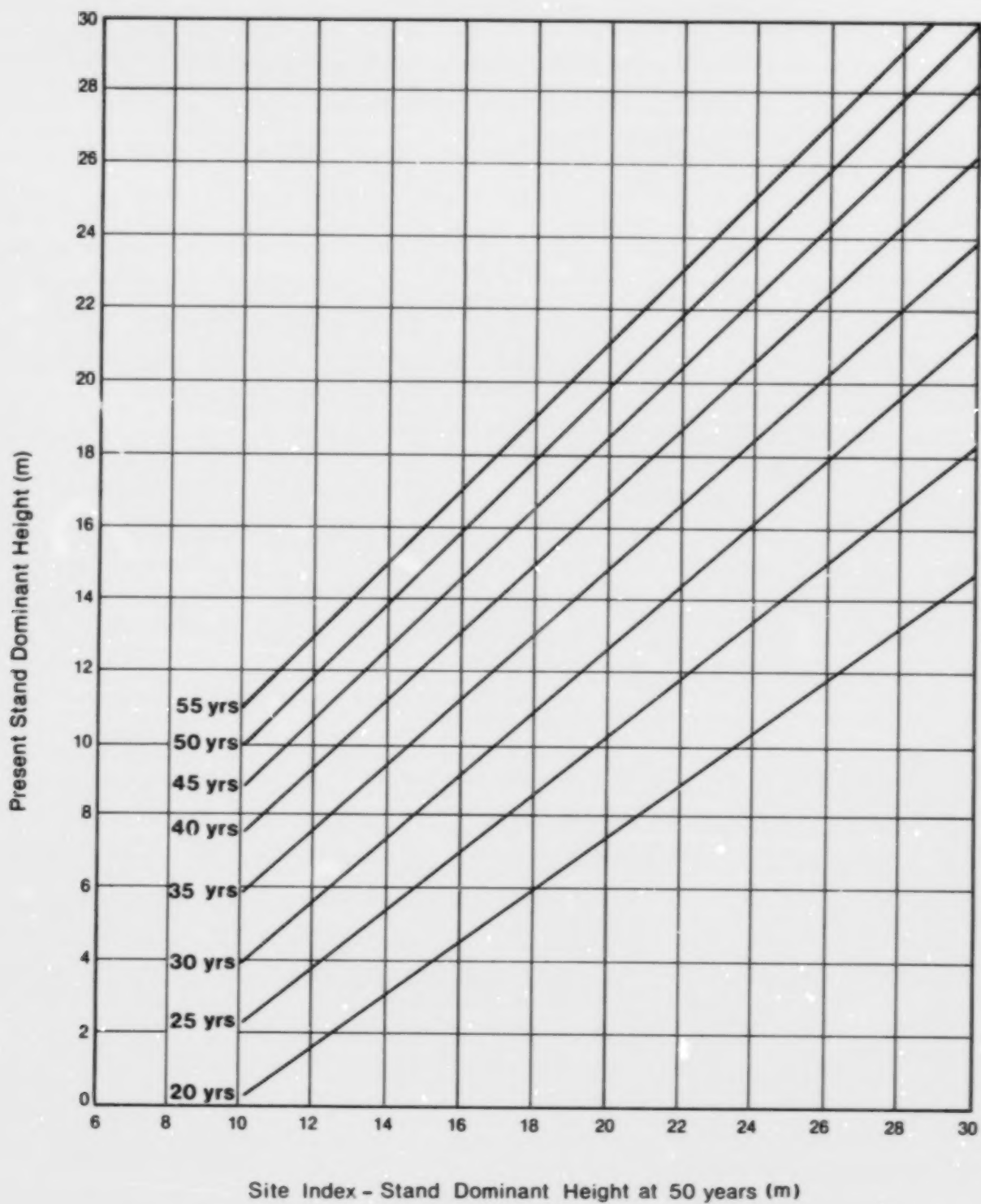


Figure 1 Site index for red pine plantations.

## Acknowledgements

It is impossible to acknowledge personally all of the people who have contributed to this ongoing project which has now spanned over three decades.

W.S. Ross Grinnell supported the program of permanent sample plot establishment and measurement from the outset. Harry Middleton was responsible for the red pine growth and yield program for many years before it was transferred to the then Research Branch. Many other foresters of foresight in head office and the districts supported the program as a matter of principle and also helped in the location, establishment and treatment of the plots.

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Finally, because of the ongoing nature of this project, the authors wish success to all who may become involved in the continuation of this study.

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# APPENDIX 1

## Data Source and Analysis

All tables, equations and charts presented in this report have been based on data collected on permanent sample plots located in regional forests from the Bruce Peninsula to the Ottawa River in southern Ontario and in the Kirkwood Forest of the Blind River district in central Ontario (Table 6, Figure 2). The data include 393 plot measurements and remeasurements (306 measurement periods) on 87 permanent sample plots. The range of the data used is presented in Table 7. The data, covering thinned and unthinned stands planted at a spacing of 1.7 m x 1.7 m to 2.3 m x 2.3 m, have been collected by the Ontario Tree Improvement and Forest Biomass Institute.

Besides successive measurements on standing trees in permanent sample plots, scaling and stem analysis data from sample trees cut during thinning operations have been incorporated into the data base.

TABLE 6 List of forests sampled

| Forest              | Number of plots | Measurement periods | Age at first measurement | Age at last measurement |
|---------------------|-----------------|---------------------|--------------------------|-------------------------|
| Flinton             | 1               | 7                   | 22                       | 52                      |
| Hendrie-Main        | 3               | 21                  | 24                       | 54                      |
| Hendrie-N.E. Orrock | 11              | 33                  | 30                       | 43                      |
| Hendrie-S. Orrock   | 4               | 12                  | 29                       | 43                      |
| Kirkwood            | 4               | 20                  | 21                       | 50                      |
| Kirkwood            | 5               | 5                   | 33                       | 39                      |
| Larose              | 4               | 4                   | 24                       | 30                      |
| Larose              | 5               | 5                   | 25                       | 32                      |
| Limerick            | 4               | 8                   | 30                       | 43                      |
| Mono                | 2               | 12                  | 22                       | 53                      |
| Orr Lake-Hamilton   | 5               | 40                  | 17                       | 49                      |
| Orr Lake-Main       | 3               | 9                   | 35                       | 49                      |
| Orr Lake-Stoney     | 6               | 18                  | 36                       | 50                      |
| Sauble              | 11              | 22                  | 32                       | 43                      |
| Slessor             | 2               | 2                   | 23                       | 30                      |
| Vivian              | 9               | 72                  | 24                       | 57                      |
| Wildman-Charlebois  | 8               | 16                  | 29                       | 44                      |
| Total               | 87              | 306                 |                          |                         |

TABLE 7 Range of available data

| Variable                        | Minimum value | Maximum value |
|---------------------------------|---------------|---------------|
| Volume (m <sup>3</sup> /ha)     | 74.5          | 706.7         |
| Basal area (m <sup>2</sup> /ha) | 19.1          | 94.1          |
| Dominant height (m)             | 8.4           | 25.9          |
| Stand age (a)                   | 17            | 57            |
| Site index (m)                  | 14.6          | 26.5          |

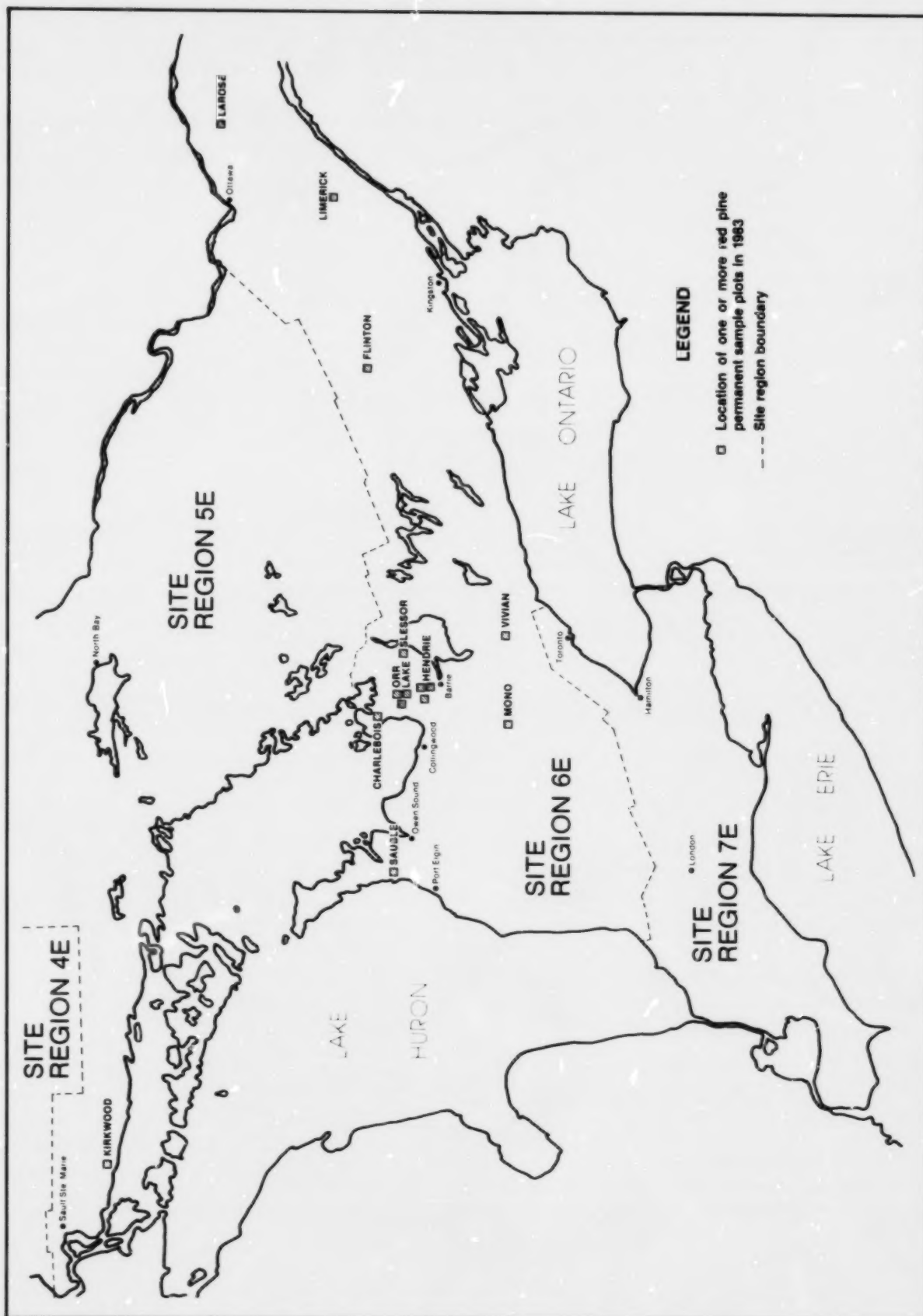


Figure 2 Location of red pine permanent sample plots.

### Present Yield (Table 1)

Based on the 393 plot measurements, the following equation was derived:

$$V = -6.0027 + 0.4745(BA \times H)$$

where V = gross total underbark volume (m<sup>3</sup>/ha)

BA = stand basal area (m<sup>2</sup>/ha)

H = stand dominant height (m)

The equation is known as Spurr's combined variable formula (Spurr 1952). The coefficients were obtained through a simple linear regression procedure which had an overall standard error of 7.3632 m<sup>3</sup>/ha and an R<sup>2</sup> value of 0.9957.

### Normal Yield - Unthinned Stands (Table 2)

The same volume equation used in Table 1 was used to estimate normal yield in Table 2.

The equation for estimating height was based on only 361 plot measurements. The reason is explained in the discussion on Site Index. The height equation is:

$$H = 0.064374(S) \left( \frac{A}{50} - \left( \frac{A}{50} \right)^2 \right) + (S) \left( \frac{A}{50} \right)$$

where H = stand dominant height (m)

S = site index (m)

A = stand age (a)

This equation was developed through a stepwise regression procedure with a zero intercept term and had an overall standard error of 0.652 m and an R<sup>2</sup> value of 0.7816.

The equation used to estimate future basal area was based on all plot measurements, including thinned and unthinned plots. It was originally intended for use only in Table 3; however, because of a desire to make Table 2 correspond to the 0% thinning of Table 3, the same future basal area equation was used.

$$B_f = [(72.2468 (A_f - A_n) + 1126666.67 (A_f^{-3} - A_n^{-3}) - 27388.0 (A_f^{-1} - A_n^{-1}) - 0.000255 S(A_f^3 - A_n^3)) + (B_n)^2]^{1/2}$$

where B<sub>f</sub> = future stand basal area (m<sup>2</sup>/ha)

B<sub>n</sub> = present stand basal area (m<sup>2</sup>/ha)

A<sub>f</sub> = future stand age (a)

A<sub>n</sub> = present stand age (a)

S = site index (m)

Future basal area could be estimated using this equation with an expected quadratic mean error of 1.86 m<sup>2</sup>/ha.

This equation was derived by integration from an inverse basal area growth model developed by one of the authors, V.G. Smith, from ordinary least squares stepwise regression:

$$\Delta B \times B = 36.1234 - 1690000 (A^{-4}) + 13694 (A^{-2}) - 0.000382 (S)(A^2)$$

where ΔB = change in basal area in a measurement period (m<sup>2</sup>/ha)

B = basal area mid-way through the time period (m<sup>2</sup>/ha)

A = age mid-way through the time period (a)

S = site index (m)

This growth model had an R<sup>2</sup> value of 0.4693 and a standard error of 10.52 m<sup>2</sup>/ha/a.

For the development of Tables 2 and 3, basal area growth was taken as the difference between the present basal area and the future basal area estimate. The basal area growth model, as such, was not used.

The equation to estimate the total number of stems per hectare was given by:

$$\text{Stems} = (41182.5219 - 5014.8230(S) + 181.5377(S^2)) \times A^{(0.3574-0.0428(S))}$$

where Stems = number of stems per hectare

S = site index (m)

A = stand age (a)

The stem function was developed in a 3-step procedure:

1. A graph showing stems per hectare vs age, by site class, was constructed.
2. A power function of the form,  $\text{Stems} = aA^b$ , was fitted for each site class, where a, b are regression coefficients.

3. All of the 'a' coefficients were regressed over site (S) resulting in a quadratic function of the form:

$$a = 41182.5219 - 5014.8230(S) + 181.5377(S^2)$$

All of the 'b' coefficients were regressed over site, resulting in a linear function of the form:

$$b = 0.3574 - 0.0428(S)$$

The equation to estimate the mean quadratic diameter was given by:

$$D = (B/\text{Stems} \times 0.0000785398)^{1/2}$$

where D = stand mean quadratic diameter (cm)

B = stand basal area (m<sup>2</sup>/ha)

Stems = number of stems per hectare

This equation results in the diameter of the tree of average basal area. The factor, 0.0000785398, is simply used for the conversion of Imperial to SI units.

#### Projected Yield - Thinned and Unthinned Stands (Table 3)

The same stand volume equation that was used for estimating volume in Tables 1 and 2 was used for estimating yields in Table 3. As well, the same equation used for estimating future basal area in Table 2 was also used in Table 3. Finally, the equation employed to estimate present and future stand height was the same height equation used for Table 2.

Future volumes were calculated by first estimating the future stand height and future basal area, and using these in the equation for stand volume. The standard error of the future volume estimates was 7.67 m<sup>3</sup>/ha.

#### Individual Tree Volume (Table 4)

The equation used to derive the individual tree standard volume table is:

$$V = 0.003913 - 0.001217(H) + 0.018580 \left( \frac{DH}{100} \right) - 0.570567 \left( \frac{D}{100} \right)^2 + 0.350407 \left( \frac{D}{100} \right)^2 H \quad (\text{Roebbelen and Smith 1981})$$

where V = estimated gross total underbark volume (m<sup>3</sup>)

H = total tree height (m)

D = diameter-outside-bark at breast-height (cm)

This equation has been modified from T.W. Dwight's 6-term volume equation (Gerrard 1966) by dropping the diameter (D) term. Regression analysis indicated that the D-term was not significant in the reduction of standard error (Roebbelen and Smith 1981).

The standard volume equation is based on 3607 red pine trees felled in Ontario during the course of thinning studies. The data, collected by the Ontario Tree Improvement and Forest Biomass Institute, ranged in age from 10-49 years, in site index from 17.5 - 26.5 m, and in diameter from 4 - 41 cm. The volume equation had an overall error of 14.78% at the 95% significance level.

#### Site Index (Table 5)

The site index table and chart were based on 361 plot measurements of dominant height and derived by following procedures suggested by Curtis *et al.* (1974). Height/age curves were produced for those stands that were near to, or had exceeded the index age of 50 years. All stands with ages greater than 40 years at their last remeasurement were included in the procedure. Approximately half of the plots were at least 50 years old and therefore could be indexed directly. The curves for those stands with ages between 40 and 50 were extrapolated to the 50-year point. There are several reasons why this approach was felt to be adequate. These plots have had sufficient remeasurements to develop reliable height/age relationships. The extrapolation period was no greater than 7 years for any plot. The height/age curves established for plots with ages greater than or equal to 50 were used as guides for the extrapolation procedure.

In this manner, each measurement period of every plot had a stand age, dominant height and site index associated with it. A stepwise regression procedure was then used to develop the following site index equation:

$$\text{Site} = \alpha + \beta H$$

$$\text{where } \alpha = 33.6154 - 5.5278(A^{1/2}) + 0.002164(A^2)$$

$$\beta = 0.7455 + 12.7255(A^{-1})$$

and Site = site index (m)

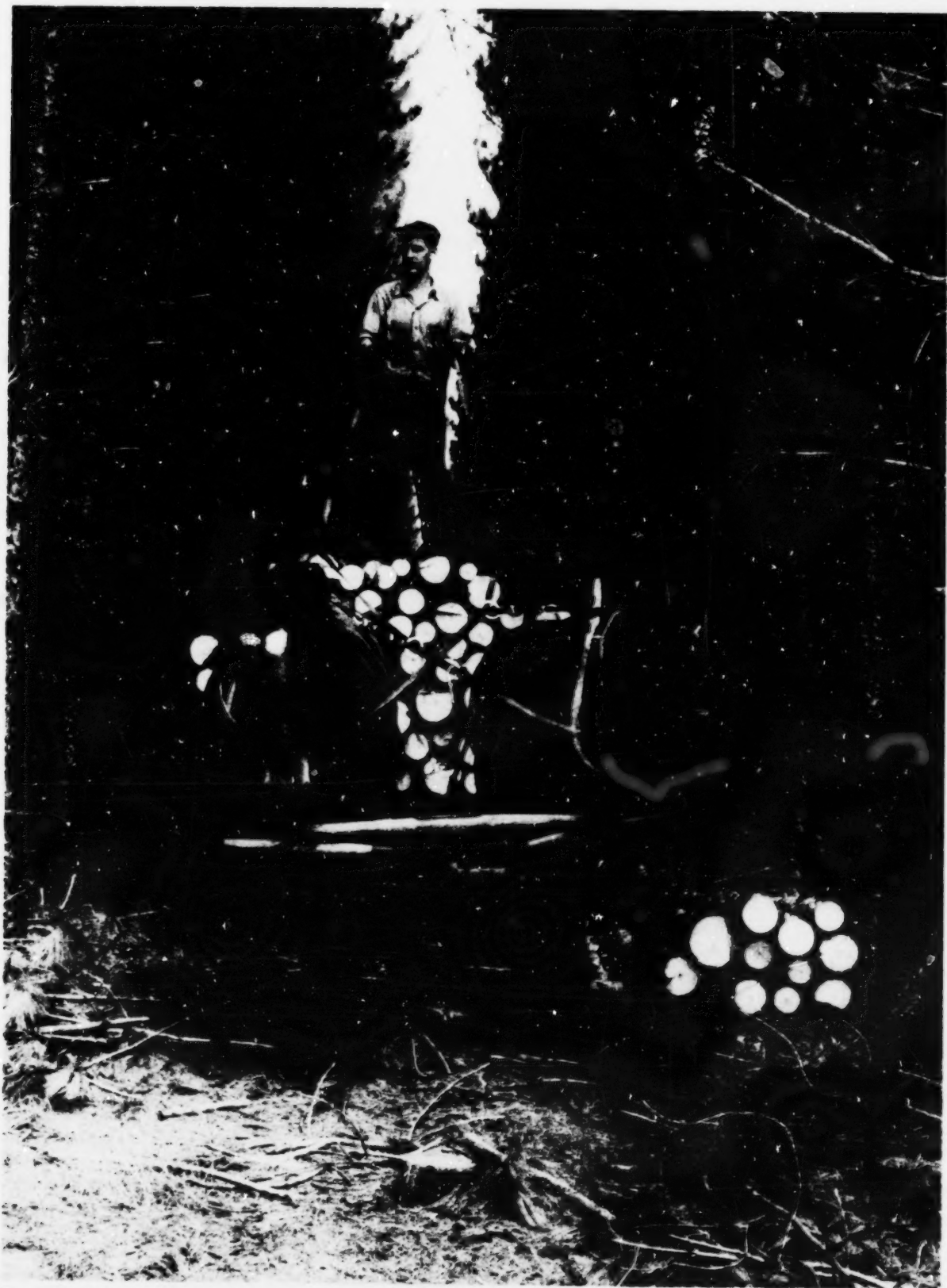
H = stand dominant height (m)

A = stand age (a)

This equation had an overall R<sup>2</sup> value of 0.9696 and a standard error of 0.6676 m.

## APPENDIX 2

Tables in Imperial units.



The end of an era. Hauling red pine pulpwood from Kirkwood Forest, Algoma District. (R. Muckleston, 1956)

TABLE 8 Present yields for red pine plantations

| Stand<br>dominant<br>height<br>(feet) | Gross total volume (ft <sup>3</sup> /ac) |      |      |      |      |      |      |      |      |       |       |       |
|---------------------------------------|------------------------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|
|                                       | Basal area (ft <sup>2</sup> /ac)         |      |      |      |      |      |      |      |      |       |       |       |
|                                       | 80                                       | 100  | 120  | 140  | 160  | 180  | 200  | 220  | 240  | 260   | 280   | 300   |
| 25                                    | 863                                      | 1101 | 1338 | 1575 | 1812 | 2050 | 2287 | 2524 | 2761 | 2999  | 3236  | 3473  |
| 30                                    | 1053                                     | 1338 | 1623 | 1907 | 2192 | 2477 | 2761 | 3046 | 3331 | 3615  | 3900  | 4185  |
| 35                                    | 1243                                     | 1575 | 1907 | 2239 | 2572 | 2904 | 3236 | 3568 | 3900 | 4232  | 4564  | 4897  |
| 40                                    | 1433                                     | 1812 | 2192 | 2572 | 2951 | 3331 | 3710 | 4090 | 4470 | 4849  | 5229  | 5608  |
| 45                                    | 1623                                     | 2050 | 2477 | 2904 | 3331 | 3758 | 4185 | 4612 | 5039 | 5466  | 5893  | 6320  |
| 50                                    | 1812                                     | 2287 | 2761 | 3236 | 3710 | 4185 | 4659 | 5134 | 5608 | 6083  | 6557  | 7032  |
| 55                                    | 2002                                     | 2524 | 3046 | 3568 | 4090 | 4612 | 5134 | 5656 | 6178 | 6700  | 7222  | 7744  |
| 60                                    | 2192                                     | 2761 | 3331 | 3900 | 4470 | 5039 | 5608 | 6178 | 6747 | 7317  | 7886  | 8455  |
| 65                                    | 2382                                     | 2999 | 3615 | 4232 | 4849 | 5466 | 6083 | 6700 | 7317 | 7933  | 8550  | 9167  |
| 70                                    | 2572                                     | 3236 | 3900 | 4564 | 5229 | 5893 | 6557 | 7222 | 7886 | 8550  | 9215  | 9879  |
| 75                                    | 2761                                     | 3473 | 4185 | 4897 | 5608 | 6320 | 7032 | 7744 | 8455 | 9167  | 9879  | 10591 |
| 80                                    | 2951                                     | 3710 | 4470 | 5229 | 5988 | 6747 | 7506 | 8266 | 9025 | 9784  | 10543 | 11302 |
| 85                                    | 3141                                     | 3948 | 4754 | 5561 | 6368 | 7174 | 7981 | 8787 | 9594 | 10401 | 11207 | 12014 |

TABLE 9 Normal yields for unthinned red pine plantations.

| Age<br>(years) |                           | Site index <sup>a</sup> |      |      |      |      |      |       |       |
|----------------|---------------------------|-------------------------|------|------|------|------|------|-------|-------|
|                |                           | 50                      | 55   | 60   | 65   | 70   | 75   | 80    | 85    |
| 20             | stems/ac                  | 1155                    | 1116 | 1150 | 1215 | 1284 | 1344 | 1385  | 1405  |
|                | ba (ft <sup>2</sup> /ac)  | 71                      | 90   | 107  | 123  | 138  | 151  | 165   | 177   |
|                | mean dbhob (in)           | 3.37                    | 3.84 | 4.13 | 4.30 | 4.43 | 4.54 | 4.68  | 4.81  |
|                | vol (ft <sup>3</sup> /ac) | 677                     | 969  | 1286 | 1621 | 1973 | 2341 | 2740  | 3132  |
|                | dom. height (ft)          | 23                      | 25   | 27   | 29   | 32   | 34   | 36    | 38    |
| 25             | stems/ac                  | 1081                    | 1030 | 1046 | 1088 | 1134 | 1170 | 1188  | 1188  |
|                | ba (ft <sup>2</sup> /ac)  | 121                     | 132  | 144  | 156  | 168  | 179  | 191   | 201   |
|                | mean dbhob (in)           | 4.53                    | 4.84 | 5.03 | 5.13 | 5.21 | 5.30 | 5.42  | 5.57  |
|                | vol (ft <sup>3</sup> /ac) | 1499                    | 1822 | 2185 | 2576 | 2995 | 3436 | 3916  | 4393  |
|                | dom. height (ft)          | 28                      | 30   | 33   | 36   | 39   | 41   | 44    | 47    |
| 30             | stems/ac                  | 1025                    | 964  | 967  | 995  | 1025 | 1044 | 1048  | 1036  |
|                | ba (ft <sup>2</sup> /ac)  | 152                     | 160  | 170  | 180  | 190  | 200  | 210   | 219   |
|                | mean dbhob (in)           | 5.21                    | 5.52 | 5.68 | 5.76 | 5.83 | 5.92 | 6.06  | 6.23  |
|                | vol (ft <sup>3</sup> /ac) | 2254                    | 2639 | 3067 | 3529 | 4021 | 4541 | 5103  | 5665  |
|                | dom. height (ft)          | 33                      | 36   | 39   | 42   | 46   | 49   | 52    | 55    |
| 35             | stems/ac                  | 979                     | 912  | 906  | 923  | 941  | 949  | 943   | 922   |
|                | ba (ft <sup>2</sup> /ac)  | 174                     | 182  | 190  | 199  | 207  | 216  | 225   | 233   |
|                | mean dbhob (in)           | 5.71                    | 6.04 | 6.20 | 6.28 | 6.36 | 6.46 | 6.62  | 6.81  |
|                | vol (ft <sup>3</sup> /ac) | 2992                    | 3444 | 3941 | 4474 | 5040 | 5636 | 6278  | 6921  |
|                | dom. height (ft)          | 37                      | 41   | 45   | 48   | 52   | 56   | 60    | 63    |
| 40             | stems/ac                  | 941                     | 869  | 856  | 864  | 873  | 873  | 860   | 834   |
|                | ba (ft <sup>2</sup> /ac)  | 192                     | 199  | 206  | 213  | 221  | 229  | 237   | 245   |
|                | mean dbhob (in)           | 6.12                    | 6.47 | 6.64 | 6.73 | 6.81 | 6.93 | 7.11  | 7.33  |
|                | vol (ft <sup>3</sup> /ac) | 3718                    | 4235 | 4799 | 5399 | 6036 | 6703 | 7421  | 8139  |
|                | dom. height (ft)          | 42                      | 46   | 50   | 54   | 58   | 63   | 67    | 71    |
| 45             | stems/ac                  | 909                     | 833  | 814  | 815  | 818  | 812  | 793   | 763   |
|                | ba (ft <sup>2</sup> /ac)  | 207                     | 212  | 218  | 225  | 232  | 239  | 246   | 253   |
|                | mean dbhob (in)           | 6.46                    | 6.83 | 7.01 | 7.11 | 7.21 | 7.35 | 7.55  | 7.80  |
|                | vol (ft <sup>3</sup> /ac) | 4424                    | 5003 | 5629 | 6293 | 6993 | 7726 | 8511  | 9296  |
|                | dom. height (ft)          | 46                      | 51   | 55   | 60   | 64   | 69   | 74    | 78    |
| 50             | stems/ac                  | 881                     | 802  | 778  | 774  | 771  | 760  | 738   | 705   |
|                | ba (ft <sup>2</sup> /ac)  | 219                     | 223  | 229  | 234  | 240  | 246  | 253   | 259   |
|                | mean dbhob (in)           | 6.75                    | 7.14 | 7.34 | 7.45 | 7.56 | 7.71 | 7.93  | 8.21  |
|                | vol (ft <sup>3</sup> /ac) | 5105                    | 5739 | 6421 | 7140 | 7896 | 8685 | 9528  | 10370 |
|                | dom. height (ft)          | 50                      | 55   | 60   | 65   | 70   | 75   | 80    | 85    |
| 55             | stems/ac                  | 857                     | 775  | 747  | 739  | 731  | 716  | 691   | 656   |
|                | ba (ft <sup>2</sup> /ac)  | 228                     | 232  | 236  | 241  | 246  | 252  | 258   | 263   |
|                | mean dbhob (in)           | 6.99                    | 7.41 | 7.62 | 7.74 | 7.86 | 8.03 | 8.27  | 8.57  |
|                | vol (ft <sup>3</sup> /ac) | 5750                    | 6433 | 7162 | 7927 | 8729 | 9563 | 10452 | 11338 |
|                | dom. height (ft)          | 54                      | 59   | 65   | 70   | 75   | 81   | 86    | 92    |

<sup>a</sup>stand dominant height (ft) at 50 years.

TABLE 10 Projected five year growth and yield for thinned and unthinned red pine plantations

| Percent thinning          |                             |                |             |              |             |                        |             |              |             |                           |             |              |             |              |             |              |             |
|---------------------------|-----------------------------|----------------|-------------|--------------|-------------|------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                           | Stand<br>before<br>thinning | 0              |             | 20           |             | 25                     |             | 30           |             | 33                        |             | 40           |             | 50           |             | 60           |             |
|                           |                             | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth           | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth              | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
| SITE INDEX 60             |                             | PRESENT AGE 20 |             |              |             | PRESENT HEIGHT 27.0 FT |             |              |             | HEIGHT IN 5 YEARS 33.2 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 500                         | 1149           | 1649        | 1212         | 1595        | 1229                   | 1583        | 1247         | 1572        | 1258                      | 1565        | 1286         | 1551        | 1327         | 1534        | 1371         | 1519        |
| BA (ft <sup>2</sup> /ac)  | 45                          | 64             | 110         | 70           | 106         | 71                     | 106         | 73           | 105         | 74                        | 104         | 76           | 104         | 80           | 102         | 83           | 102         |
| VOL (ft <sup>3</sup> /ac) | 1000                        | 980            | 1980        | 1036         | 1819        | 1054                   | 1783        | 1074         | 1748        | 1086                      | 1728        | 1118         | 1684        | 1171         | 1628        | 1232         | 1581        |
| BA (ft <sup>2</sup> /ac)  | 84                          | 46             | 131         | 53           | 121         | 55                     | 118         | 57           | 116         | 58                        | 115         | 61           | 112         | 66           | 108         | 72           | 105         |
| VOL (ft <sup>3</sup> /ac) | 1500                        | 919            | 2419        | 948          | 2131        | 960                    | 2064        | 975          | 1999        | 985                       | 1962        | 1012         | 1878        | 1062         | 1769        | 1126         | 1675        |
| BA (ft <sup>2</sup> /ac)  | 123                         | 35             | 159         | 42           | 140         | 43                     | 136         | 45           | 132         | 47                        | 130         | 50           | 124         | 56           | 117         | 62           | 111         |
| SITE INDEX 60             |                             | PRESENT AGE 25 |             |              |             | PRESENT HEIGHT 33.2 FT |             |              |             | HEIGHT IN 5 YEARS 39.0 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 1000                        | 1066           | 2066        | 1142         | 1925        | 1164                   | 1893        | 1188         | 1863        | 1204                      | 1845        | 1242         | 1808        | 1302         | 1759        | 1371         | 1719        |
| BA (ft <sup>2</sup> /ac)  | 68                          | 47             | 116         | 53           | 108         | 55                     | 106         | 56           | 105         | 58                        | 104         | 60           | 102         | 65           | 99          | 69           | 97          |
| VOL (ft <sup>3</sup> /ac) | 1500                        | 960            | 2460        | 1017         | 2200        | 1037                   | 2140        | 1059         | 2083        | 1073                      | 2050        | 1110         | 1976        | 1174         | 1881        | 1251         | 1799        |
| BA (ft <sup>2</sup> /ac)  | 100                         | 36             | 137         | 42           | 123         | 44                     | 120         | 46           | 117         | 47                        | 115         | 50           | 111         | 55           | 106         | 61           | 101         |
| VOL (ft <sup>3</sup> /ac) | 2000                        | 918            | 2918        | 949          | 2532        | 963                    | 2441        | 979          | 2353        | 990                       | 2302        | 1021         | 2187        | 1079         | 2036        | 1156         | 1904        |
| BA (ft <sup>2</sup> /ac)  | 132                         | 29             | 162         | 35           | 141         | 37                     | 136         | 38           | 131         | 40                        | 128         | 43           | 122         | 48           | 114         | 54           | 107         |
| VOL (ft <sup>3</sup> /ac) | 2500                        | 915            | 3415        | 919          | 2902        | 925                    | 2779        | 935          | 2659        | 942                       | 2589        | 965          | 2430        | 1012         | 2219        | 1082         | 2031        |
| BA (ft <sup>2</sup> /ac)  | 164                         | 24             | 189         | 29           | 161         | 31                     | 154         | 33           | 148         | 34                        | 144         | 37           | 135         | 42           | 124         | 48           | 114         |
| SITE INDEX 60             |                             | PRESENT AGE 30 |             |              |             | PRESENT HEIGHT 39.0 FT |             |              |             | HEIGHT IN 5 YEARS 44.7 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 1500                        | 1006           | 2506        | 1083         | 2266        | 1108                   | 2211        | 1134         | 2159        | 1152                      | 2128        | 1196         | 2061        | 1268         | 1975        | 1354         | 1902        |
| BA (ft <sup>2</sup> /ac)  | 85                          | 36             | 122         | 42           | 110         | 44                     | 108         | 46           | 105         | 47                        | 104         | 49           | 101         | 54           | 97          | 59           | 93          |
| VOL (ft <sup>3</sup> /ac) | 2000                        | 934            | 2934        | 990          | 2573        | 1010                   | 2489        | 1033         | 2407        | 1048                      | 2360        | 1088         | 2254        | 1159         | 2116        | 1248         | 1997        |
| BA (ft <sup>2</sup> /ac)  | 112                         | 29             | 142         | 35           | 125         | 37                     | 121         | 38           | 117         | 39                        | 115         | 42           | 110         | 47           | 103         | 53           | 98          |
| VOL (ft <sup>3</sup> /ac) | 2500                        | 903            | 3403        | 935          | 2918        | 950                    | 2803        | 967          | 2691        | 979                       | 2626        | 1013         | 2478        | 1076         | 2283        | 1162         | 2111        |
| BA (ft <sup>2</sup> /ac)  | 139                         | 25             | 164         | 30           | 141         | 31                     | 136         | 33           | 131         | 34                        | 127         | 37           | 121         | 42           | 111         | 47           | 103         |
| VOL (ft <sup>3</sup> /ac) | 3000                        | 900            | 3900        | 908          | 3290        | 916                    | 3144        | 927          | 3001        | 935                       | 2917        | 961          | 2727        | 1014         | 2472        | 1093         | 2242        |
| BA (ft <sup>2</sup> /ac)  | 166                         | 21             | 188         | 26           | 159         | 27                     | 152         | 29           | 145         | 30                        | 141         | 32           | 132         | 37           | 120         | 43           | 109         |
| VOL (ft <sup>3</sup> /ac) | 3500                        | 914            | 4414        | 899          | 3681        | 901                    | 3504        | 906          | 3330        | 911                       | 3227        | 928          | 2993        | 970          | 2677        | 1039         | 2388        |
| BA (ft <sup>2</sup> /ac)  | 193                         | 18             | 212         | 22           | 177         | 24                     | 169         | 25           | 161         | 26                        | 156         | 29           | 145         | 33           | 130         | 39           | 116         |
| SITE INDEX 60             |                             | PRESENT AGE 35 |             |              |             | PRESENT HEIGHT 44.7 FT |             |              |             | HEIGHT IN 5 YEARS 50.0 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 2000                        | 950            | 2950        | 1025         | 2607        | 1049                   | 2528        | 1077         | 2451        | 1095                      | 2406        | 1141         | 2307        | 1221         | 2178        | 1318         | 2067        |
| BA (ft <sup>2</sup> /ac)  | 98                          | 29             | 127         | 34           | 113         | 36                     | 110         | 37           | 106         | 39                        | 104         | 41           | 100         | 46           | 95          | 51           | 90          |
| VOL (ft <sup>3</sup> /ac) | 2500                        | 900            | 3400        | 953          | 2936        | 972                    | 2826        | 995          | 2720        | 1011                      | 2658        | 1052         | 2518        | 1127         | 2334        | 1225         | 2173        |
| BA (ft <sup>2</sup> /ac)  | 122                         | 24             | 146         | 29           | 127         | 31                     | 122         | 32           | 118         | 33                        | 115         | 36           | 109         | 40           | 101         | 46           | 95          |
| VOL (ft <sup>3</sup> /ac) | 3000                        | 877            | 3877        | 909          | 3291        | 923                    | 3151        | 941          | 3015        | 953                       | 2935        | 988          | 2753        | 1055         | 2512        | 1147         | 2296        |
| BA (ft <sup>2</sup> /ac)  | 145                         | 21             | 166         | 25           | 142         | 27                     | 136         | 28           | 130         | 29                        | 127         | 32           | 119         | 36           | 109         | 42           | 100         |
| VOL (ft <sup>3</sup> /ac) | 3500                        | 874            | 4374        | 884          | 3667        | 893                    | 3497        | 905          | 3330        | 914                       | 3231        | 942          | 3007        | 999          | 2706        | 1084         | 2432        |
| BA (ft <sup>2</sup> /ac)  | 169                         | 18             | 187         | 22           | 158         | 24                     | 150         | 25           | 143         | 26                        | 139         | 28           | 130         | 33           | 117         | 38           | 106         |
| VOL (ft <sup>3</sup> /ac) | 4000                        | 884            | 4884        | 874          | 4057        | 878                    | 3856        | 885          | 3659        | 890                       | 3542        | 910          | 3276        | 956          | 2914        | 1032         | 2581        |
| BA (ft <sup>2</sup> /ac)  | 192                         | 16             | 209         | 20           | 174         | 21                     | 166         | 22           | 157         | 23                        | 152         | 25           | 141         | 29           | 126         | 35           | 112         |
| VOL (ft <sup>3</sup> /ac) | 4500                        | 905            | 5405        | 875          | 4458        | 873                    | 4227        | 875          | 3999        | 878                       | 3864        | 890          | 3555        | 925          | 3132        | 991          | 2739        |
| BA (ft <sup>2</sup> /ac)  | 216                         | 14             | 231         | 18           | 191         | 19                     | 181         | 20           | 172         | 21                        | 166         | 23           | 153         | 27           | 135         | 32           | 119         |

TABLE 10 (continued)

| Percent thinning |                             |                |             |              |             |                        |             |              |             |                           |             |              |             |              |             |              |             |
|------------------|-----------------------------|----------------|-------------|--------------|-------------|------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                  | Stand<br>before<br>thinning | 0              |             | 20           |             | 25                     |             | 30           |             | 33                        |             | 40           |             | 50           |             | 60           |             |
|                  |                             | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth           | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth              | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
| SITE INDEX 60    |                             | PRESENT AGE 40 |             |              |             | PRESENT HEIGHT 50.0 FT |             |              |             | HEIGHT IN 5 YEARS 55.1 FT |             |              |             |              |             |              |             |
| VOL (ft³/ac)     | 2500                        | 891            | 3391        | 959          | 2942        | 982                    | 2836        | 1009         | 2733        | 1027                      | 2673        | 1074         | 2539        | 1156         | 2363        | 1261         | 2209        |
| BA (ft²/ac)      | 108                         | 23             | 132         | 28           | 115         | 29                     | 111         | 31           | 107         | 32                        | 105         | 34           | 100         | 39           | 93          | 44           | 87          |
| VOL (ft³/ac)     | 3000                        | 855            | 3855        | 903          | 3286        | 922                    | 3150        | 944          | 3018        | 959                       | 2941        | 1000         | 2766        | 1076         | 2533        | 1178         | 2326        |
| BA (ft²/ac)      | 129                         | 20             | 150         | 24           | 128         | 26                     | 123         | 27           | 118         | 28                        | 115         | 31           | 109         | 35           | 100         | 40           | 92          |
| VOL (ft³/ac)     | 3500                        | 840            | 4340        | 868          | 3651        | 882                    | 3485        | 899          | 3323        | 911                       | 3228        | 945          | 3011        | 1013         | 2720        | 1109         | 2457        |
| BA (ft²/ac)      | 151                         | 18             | 169         | 21           | 142         | 23                     | 136         | 24           | 130         | 25                        | 126         | 27           | 118         | 31           | 107         | 36           | 97          |
| VOL (ft³/ac)     | 4000                        | 838            | 4838        | 848          | 4031        | 856                    | 3835        | 869          | 3643        | 878                       | 3529        | 905          | 3271        | 963          | 2920        | 1051         | 2600        |
| BA (ft²/ac)      | 172                         | 16             | 188         | 19           | 157         | 20                     | 149         | 22           | 142         | 22                        | 138         | 25           | 128         | 28           | 114         | 33           | 102         |
| VOL (ft³/ac)     | 4500                        | 847            | 5347        | 839          | 4421        | 843                    | 4196        | 850          | 3974        | 856                       | 3843        | 877          | 3542        | 925          | 3132        | 1004         | 2752        |
| BA (ft²/ac)      | 193                         | 14             | 207         | 17           | 172         | 18                     | 163         | 19           | 155         | 20                        | 150         | 22           | 138         | 26           | 122         | 31           | 108         |
| VOL (ft³/ac)     | 5000                        | 863            | 5863        | 838          | 4821        | 838                    | 4566        | 840          | 4314        | 843                       | 4165        | 857          | 3823        | 895          | 3352        | 965          | 2913        |
| BA (ft²/ac)      | 214                         | 13             | 227         | 16           | 187         | 17                     | 177         | 18           | 168         | 18                        | 162         | 20           | 149         | 24           | 131         | 28           | 114         |
| SITE INDEX 60    |                             | PRESENT AGE 45 |             |              |             | PRESENT HEIGHT 55.1 FT |             |              |             | HEIGHT IN 5 YEARS 60.0 FT |             |              |             |              |             |              |             |
| VOL (ft³/ac)     | 3000                        | 823            | 3823        | 881          | 3264        | 903                    | 3131        | 927          | 3002        | 944                       | 2926        | 989          | 2754        | 1070         | 2527        | 1177         | 2325        |
| BA (ft²/ac)      | 117                         | 19             | 137         | 23           | 117         | 24                     | 113         | 25           | 108         | 26                        | 105         | 29           | 99          | 32           | 91          | 37           | 84          |
| VOL (ft³/ac)     | 3500                        | 799            | 4299        | 839          | 3622        | 856                    | 3460        | 876          | 3301        | 890                       | 3207        | 929          | 2995        | 1002         | 2710        | 1104         | 2453        |
| BA (ft²/ac)      | 137                         | 16             | 154         | 20           | 130         | 21                     | 124         | 23           | 118         | 23                        | 115         | 25           | 108         | 29           | 98          | 34           | 89          |
| VOL (ft³/ac)     | 4000                        | 790            | 4790        | 813          | 3995        | 825                    | 3803        | 840          | 3615        | 851                       | 3503        | 884          | 3249        | 949          | 2906        | 1043         | 2592        |
| BA (ft²/ac)      | 156                         | 15             | 171         | 18           | 143         | 19                     | 136         | 20           | 129         | 21                        | 126         | 23           | 117         | 27           | 105         | 31           | 94          |
| VOL (ft³/ac)     | 4500                        | 791            | 5291        | 797          | 4380        | 805                    | 4158        | 816          | 3940        | 824                       | 3811        | 850          | 3516        | 906          | 3113        | 993          | 2741        |
| BA (ft²/ac)      | 175                         | 13             | 188         | 16           | 156         | 17                     | 149         | 18           | 141         | 19                        | 136         | 21           | 126         | 24           | 112         | 29           | 99          |
| VOL (ft³/ac)     | 5000                        | 799            | 5799        | 790          | 4773        | 794                    | 4522        | 800          | 4274        | 806                       | 4128        | 826          | 3791        | 872          | 3329        | 950          | 2899        |
| BA (ft²/ac)      | 194                         | 12             | 206         | 15           | 170         | 16                     | 161         | 17           | 153         | 17                        | 148         | 19           | 136         | 22           | 119         | 27           | 104         |
| VOL (ft³/ac)     | 5500                        | 813            | 6313        | 790          | 5172        | 789                    | 4893        | 792          | 4616        | 795                       | 4452        | 809          | 4074        | 846          | 3553        | 915          | 3064        |
| BA (ft²/ac)      | 213                         | 11             | 224         | 13           | 184         | 14                     | 174         | 15           | 165         | 16                        | 159         | 18           | 146         | 21           | 127         | 25           | 110         |
| VOL (ft³/ac)     | 6000                        | 832            | 6832        | 794          | 5577        | 790                    | 5269        | 789          | 4963        | 790                       | 4782        | 797          | 4363        | 826          | 3783        | 886          | 3234        |
| BA (ft²/ac)      | 232                         | 10             | 242         | 12           | 198         | 13                     | 188         | 14           | 177         | 15                        | 170         | 16           | 156         | 19           | 135         | 23           | 116         |
| SITE INDEX 60    |                             | PRESENT AGE 50 |             |              |             | PRESENT HEIGHT 60.0 FT |             |              |             | HEIGHT IN 5 YEARS 64.6 FT |             |              |             |              |             |              |             |
| VOL (ft³/ac)     | 3500                        | 745            | 4245        | 790          | 3573        | 808                    | 3411        | 829          | 3253        | 844                       | 3160        | 884          | 2949        | 959          | 2666        | 1062         | 2411        |
| BA (ft²/ac)      | 125                         | 15             | 141         | 18           | 119         | 19                     | 114         | 20           | 108         | 21                        | 105         | 23           | 99          | 26           | 89          | 31           | 81          |
| VOL (ft³/ac)     | 4000                        | 731            | 4731        | 760          | 3943        | 774                    | 3752        | 791          | 3565        | 803                       | 3455        | 837          | 3203        | 904          | 2861        | 1001         | 2549        |
| BA (ft²/ac)      | 143                         | 13             | 157         | 16           | 131         | 17                     | 125         | 18           | 119         | 19                        | 115         | 21           | 107         | 24           | 96          | 28           | 85          |
| VOL (ft³/ac)     | 4500                        | 727            | 5227        | 741          | 4324        | 751                    | 4105        | 764          | 3888        | 773                       | 3760        | 801          | 3467        | 860          | 3067        | 949          | 2698        |
| BA (ft²/ac)      | 161                         | 12             | 173         | 15           | 143         | 15                     | 136         | 16           | 129         | 17                        | 125         | 19           | 115         | 22           | 102         | 26           | 90          |
| VOL (ft³/ac)     | 5000                        | 731            | 5731        | 731          | 4714        | 737                    | 4465        | 746          | 4220        | 753                       | 4074        | 775          | 3741        | 825          | 3282        | 906          | 2854        |
| BA (ft²/ac)      | 178                         | 11             | 189         | 13           | 156         | 14                     | 148         | 15           | 140         | 16                        | 135         | 17           | 124         | 20           | 109         | 24           | 95          |
| VOL (ft³/ac)     | 5500                        | 740            | 6240        | 727          | 5110        | 729                    | 4833        | 734          | 4559        | 739                       | 4396        | 756          | 4021        | 797          | 3504        | 869          | 3018        |
| BA (ft²/ac)      | 196                         | 10             | 206         | 12           | 169         | 13                     | 160         | 14           | 151         | 14                        | 146         | 16           | 133         | 19           | 117         | 22           | 101         |
| VOL (ft³/ac)     | 6000                        | 754            | 6754        | 728          | 5511        | 727                    | 5206        | 728          | 4903        | 731                       | 4723        | 742          | 4308        | 776          | 3733        | 839          | 3188        |
| BA (ft²/ac)      | 213                         | 9              | 223         | 11           | 182         | 12                     | 172         | 13           | 162         | 13                        | 156         | 15           | 143         | 17           | 124         | 21           | 106         |
| VOL (ft³/ac)     | 6500                        | 771            | 7271        | 734          | 5916        | 729                    | 5583        | 727          | 5251        | 727                       | 5054        | 733          | 4599        | 759          | 3966        | 814          | 3363        |
| BA (ft²/ac)      | 231                         | 8              | 240         | 10           | 195         | 11                     | 184         | 12           | 174         | 12                        | 167         | 14           | 152         | 16           | 132         | 19           | 112         |
| VOL (ft³/ac)     | 7000                        | 792            | 7792        | 742          | 6325        | 734                    | 5963        | 729          | 5603        | 727                       | 5389        | 729          | 4894        | 746          | 4204        | 793          | 3542        |
| BA (ft²/ac)      | 248                         | 8              | 256         | 10           | 209         | 10                     | 197         | 11           | 185         | 11                        | 178         | 13           | 162         | 15           | 139         | 18           | 118         |

TABLE 10 (continued)

|              | Percent thinning            |              |                |              |             |              |                        |              |             |              |                           |              |             |              |             |              |             |  |
|--------------|-----------------------------|--------------|----------------|--------------|-------------|--------------|------------------------|--------------|-------------|--------------|---------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--|
|              | Stand<br>before<br>thinning | 0            |                | 20           |             | 25           |                        | 30           |             | 33           |                           | 40           |             | 50           |             | 60           |             |  |
|              |                             | 5-yr<br>grth | 5-yr<br>y'd    | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd            | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd               | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |  |
|              | SITE INDEX                  | 60           | PRESENT AGE 55 |              |             |              | PRESENT HEIGHT 64.6 FT |              |             |              | HEIGHT IN 5 YEARS 69.0 FT |              |             |              |             |              |             |  |
| VOL (ft³/ac) | 3500                        | 668          | 4168           | 712          | 3495        | 729          | 3333                   | 749          | 3174        | 763          | 3080                      | 801          | 2867        | 873          | 2580        | 972          | 2320        |  |
| BA (ft²/ac)  | 116                         | 13           | 130            | 15           | 109         | 16           | 104                    | 17           | 99          | 18           | 96                        | 20           | 90          | 23           | 81          | 26           | 73          |  |
| VOL (ft³/ac) | 4000                        | 654          | 4654           | 683          | 3866        | 696          | 3675                   | 713          | 3487        | 724          | 3376                      | 757          | 3122        | 821          | 2778        | 913          | 2462        |  |
| BA (ft²/ac)  | 133                         | 11           | 144            | 14           | 120         | 14           | 114                    | 15           | 109         | 16           | 105                       | 18           | 98          | 20           | 87          | 24           | 77          |  |
| VOL (ft³/ac) | 4500                        | 649          | 5149           | 665          | 4248        | 674          | 4028                   | 687          | 3811        | 696          | 3682                      | 723          | 3388        | 779          | 2986        | 364          | 2612        |  |
| BA (ft²/ac)  | 149                         | 10           | 159            | 12           | 132         | 13           | 125                    | 14           | 119         | 14           | 115                       | 16           | 106         | 19           | 93          | 22           | 82          |  |
| VOL (ft³/ac) | 5000                        | 651          | 5651           | 654          | 4637        | 660          | 4389                   | 669          | 4143        | 676          | 3997                      | 697          | 3663        | 745          | 3202        | 822          | 2771        |  |
| BA (ft²/ac)  | 165                         | 9            | 175            | 11           | 144         | 12           | 136                    | 13           | 129         | 13           | 124                       | 15           | 114         | 17           | 100         | 20           | 87          |  |
| VOL (ft³/ac) | 5500                        | 658          | 6158           | 649          | 5032        | 652          | 4756                   | 657          | 4482        | 662          | 4319                      | 679          | 3944        | 719          | 3426        | 788          | 2936        |  |
| BA (ft²/ac)  | 182                         | 8            | 190            | 10           | 156         | 11           | 147                    | 12           | 139         | 12           | 134                       | 13           | 123         | 16           | 107         | 19           | 92          |  |
| VOL (ft³/ac) | 6000                        | 670          | 6670           | 649          | 5432        | 649          | 5127                   | 651          | 4825        | 654          | 4646                      | 665          | 4231        | 698          | 3655        | 759          | 3107        |  |
| BA (ft²/ac)  | 198                         | 7            | 206            | 9            | 168         | 10           | 159                    | 11           | 150         | 11           | 144                       | 12           | 131         | 15           | 114         | 18           | 97          |  |
| VOL (ft³/ac) | 6500                        | 684          | 7184           | 653          | 5836        | 650          | 5503                   | 649          | 5173        | 650          | 4976                      | 656          | 4522        | 682          | 3899        | 735          | 3283        |  |
| BA (ft²/ac)  | 214                         | 7            | 222            | 9            | 180         | 9            | 170                    | 10           | 160         | 10           | 154                       | 11           | 140         | 14           | 121         | 17           | 102         |  |
| VOL (ft³/ac) | 7000                        | 702          | 7702           | 660          | 6243        | 654          | 5882                   | 650          | 5524        | 649          | 5311                      | 651          | 4817        | 670          | 4127        | 715          | 3463        |  |
| BA (ft²/ac)  | 231                         | 6            | 238            | 8            | 193         | 9            | 182                    | 9            | 171         | 10           | 164                       | 11           | 149         | 13           | 128         | 16           | 108         |  |
| VOL (ft³/ac) | 7500                        | 721          | 8221           | 669          | 6652        | 660          | 6264                   | 654          | 5878        | 651          | 5648                      | 649          | 5115        | 661          | 4368        | 699          | 3647        |  |
| BA (ft²/ac)  | 247                         | 6            | 253            | 7            | 205         | 8            | 194                    | 9            | 182         | 9            | 175                       | 10           | 158         | 12           | 136         | 15           | 114         |  |
|              | SITE INDEX                  | 60           | PRESENT AGE 60 |              |             |              | PRESENT HEIGHT 69.0 FT |              |             |              | HEIGHT IN 5 YEARS 73.1 FT |              |             |              |             |              |             |  |
| VOL (ft³/ac) | 4000                        | 552          | 4552           | 574          | 3757        | 584          | 3563                   | 598          | 3372        | 607          | 3259                      | 634          | 3000        | 688          | 2645        | 768          | 2317        |  |
| BA (ft²/ac)  | 124                         | 8            | 133            | 10           | 110         | 11           | 105                    | 12           | 99          | 12           | 96                        | 14           | 89          | 16           | 78          | 19           | 69          |  |
| VOL (ft³/ac) | 4500                        | 550          | 5050           | 560          | 4143        | 567          | 3921                   | 577          | 3701        | 584          | 3571                      | 606          | 3272        | 653          | 2860        | 725          | 2474        |  |
| BA (ft²/ac)  | 140                         | 8            | 148            | 9            | 121         | 10           | 115                    | 11           | 109         | 11           | 105                       | 12           | 96          | 14           | 84          | 17           | 73          |  |
| VOL (ft³/ac) | 5000                        | 554          | 5554           | 552          | 4535        | 556          | 4285                   | 563          | 4037        | 568          | 3890                      | 585          | 3551        | 625          | 3082        | 690          | 2638        |  |
| BA (ft²/ac)  | 155                         | 7            | 162            | 8            | 133         | 9            | 126                    | 10           | 118         | 10           | 114                       | 11           | 104         | 13           | 91          | 16           | 78          |  |
| VOL (ft³/ac) | 5500                        | 562          | 6062           | 550          | 4933        | 551          | 4655                   | 555          | 4379        | 558          | 4215                      | 570          | 3836        | 603          | 3310        | 660          | 2809        |  |
| BA (ft²/ac)  | 170                         | 6            | 177            | 8            | 144         | 8            | 136                    | 9            | 128         | 9            | 124                       | 10           | 113         | 12           | 97          | 15           | 83          |  |
| VOL (ft³/ac) | 6000                        | 573          | 6573           | 551          | 5334        | 550          | 5029                   | 551          | 4725        | 552          | 4544                      | 560          | 4126        | 586          | 3543        | 636          | 2984        |  |
| BA (ft²/ac)  | 185                         | 6            | 192            | 7            | 156         | 8            | 147                    | 8            | 138         | 8            | 133                       | 9            | 121         | 11           | 104         | 14           | 88          |  |
| VOL (ft³/ac) | 6500                        | 587          | 7087           | 556          | 5739        | 552          | 5406                   | 550          | 5074        | 550          | 4877                      | 554          | 4420        | 573          | 3780        | 616          | 3164        |  |
| BA (ft²/ac)  | 201                         | 5            | 206            | 7            | 168         | 7            | 158                    | 7            | 148         | 8            | 143                       | 9            | 129         | 10           | 111         | 13           | 93          |  |
| VOL (ft³/ac) | 7000                        | 603          | 7603           | 563          | 6146        | 557          | 5785                   | 552          | 5427        | 551          | 5212                      | 551          | 4716        | 563          | 4021        | 599          | 3348        |  |
| BA (ft²/ac)  | 216                         | 5            | 221            | 6            | 179         | 6            | 169                    | 7            | 159         | 7            | 152                       | 8            | 138         | 10           | 118         | 12           | 99          |  |
| VOL (ft³/ac) | 7500                        | 621          | 8121           | 573          | 6556        | 564          | 6167                   | 557          | 5781        | 554          | 5550                      | 550          | 5016        | 557          | 4264        | 586          | 3535        |  |
| BA (ft²/ac)  | 231                         | 4            | 236            | 6            | 191         | 6            | 180                    | 6            | 169         | 7            | 162                       | 8            | 147         | 9            | 125         | 11           | 104         |  |
| VOL (ft³/ac) | 8000                        | 641          | 8641           | 584          | 6967        | 573          | 6551                   | 563          | 6138        | 559          | 5890                      | 551          | 5317        | 553          | 4510        | 576          | 3724        |  |
| BA (ft²/ac)  | 247                         | 4            | 251            | 5            | 203         | 6            | 191                    | 6            | 179         | 6            | 172                       | 7            | 155         | 9            | 132         | 11           | 109         |  |
| VOL (ft³/ac) | 8500                        | 661          | 9161           | 596          | 7379        | 583          | 6936                   | 571          | 6496        | 565          | 6232                      | 555          | 5620        | 550          | 4758        | 567          | 3916        |  |
| BA (ft²/ac)  | 262                         | 4            | 266            | 5            | 215         | 5            | 202                    | 6            | 189         | 6            | 182                       | 7            | 164         | 8            | 139         | 10           | 115         |  |

TABLE 10 (continued)

| Percent thinning            |              |             |                |             |              |             |                        |             |              |             |                           |             |              |             |              |             |      |
|-----------------------------|--------------|-------------|----------------|-------------|--------------|-------------|------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|--------------|-------------|------|
| Stand<br>before<br>thinning | 0            |             | 20             |             | 25           |             | 30                     |             | 33           |             | 40                        |             | 50           |             | 60           |             |      |
|                             | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth           | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth              | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |      |
| SITE INDEX                  |              | 65          | PRESENT AGE 20 |             |              |             | PRESENT HEIGHT 29.3 FT |             |              |             | HEIGHT IN 5 YEARS 35.9 FT |             |              |             |              |             |      |
| VOL (ft <sup>3</sup> /ac)   | 1000         | 1078        | 2078           | 1143        | 1926         | 1163        | 1891                   | 1184        | 1858         | 1198        | 1840                      | 1232        | 1798         | 1288        | 1746         | 1353        | 1702 |
| BA (ft <sup>2</sup> /ac)    | 78           | 48          | 126            | 55          | 117          | 57          | 115                    | 59          | 114          | 60          | 112                       | 63          | 110          | 68          | 107          | 73          | 104  |
| VOL (ft <sup>3</sup> /ac)   | 1500         | 1001        | 2501           | 1040        | 2223         | 1055        | 2159                   | 1073        | 2097         | 1084        | 2061                      | 1115        | 1981         | 1171        | 1878         | 1241        | 1789 |
| BA (ft <sup>2</sup> /ac)    | 114          | 37          | 151            | 44          | 135          | 46          | 131                    | 48          | 128          | 49          | 125                       | 52          | 121          | 58          | 115          | 64          | 110  |
| VOL (ft <sup>3</sup> /ac)   | 2000         | 989         | 2989           | 996         | 2579         | 1003        | 2482                   | 1013        | 2387         | 1021        | 2333                      | 1043        | 2209         | 1089        | 2047         | 1155        | 1904 |
| BA (ft <sup>2</sup> /ac)    | 150          | 30          | 180            | 36          | 156          | 39          | 150                    | 40          | 145          | 41          | 141                       | 44          | 134          | 50          | 125          | 56          | 116  |
| SITE INDEX                  |              | 65          | PRESENT AGE 25 |             |              |             | PRESENT HEIGHT 35.9 FT |             |              |             | HEIGHT IN 5 YEARS 42.3 FT |             |              |             |              |             |      |
| VOL (ft <sup>3</sup> /ac)   | 1500         | 1054        | 2554           | 1121        | 2304         | 1144        | 2247                   | 1168        | 2192         | 1184        | 2161                      | 1225        | 2091         | 1294        | 2001         | 1376        | 1924 |
| BA (ft <sup>2</sup> /ac)    | 93           | 38          | 131            | 44          | 119          | 46          | 116                    | 48          | 113          | 49          | 111                       | 52          | 108          | 57          | 103          | 62          | 100  |
| VOL (ft <sup>3</sup> /ac)   | 2000         | 998         | 2998           | 1041        | 2623         | 1057        | 2536                   | 1077        | 2451         | 1090        | 2402                      | 1126        | 2292         | 1191        | 2148         | 1275        | 2023 |
| BA (ft <sup>2</sup> /ac)    | 122          | 31          | 153            | 37          | 135          | 38          | 130                    | 40          | 126          | 42          | 123                       | 45          | 118          | 50          | 111          | 56          | 105  |
| VOL (ft <sup>3</sup> /ac)   | 2500         | 984         | 3484           | 999         | 2982         | 1009        | 2863                   | 1022        | 2746         | 1032        | 2678                      | 1060        | 2525         | 1115        | 2322         | 1194        | 2143 |
| BA (ft <sup>2</sup> /ac)    | 151          | 26          | 177            | 31          | 152          | 33          | 146                    | 34          | 141          | 36          | 137                       | 39          | 130          | 44          | 120          | 50          | 111  |
| VOL (ft <sup>3</sup> /ac)   | 3000         | 998         | 3998           | 985         | 3367         | 988         | 3216                   | 994         | 3068         | 999         | 2981                      | 1018        | 2783         | 1061        | 2518         | 1131        | 2279 |
| BA (ft <sup>2</sup> /ac)    | 180          | 22          | 203            | 27          | 172          | 28          | 164                    | 30          | 157          | 31          | 152                       | 34          | 142          | 39          | 129          | 45          | 117  |
| SITE INDEX                  |              | 65          | PRESENT AGE 30 |             |              |             | PRESENT HEIGHT 42.3 FT |             |              |             | HEIGHT IN 5 YEARS 48.4 FT |             |              |             |              |             |      |
| VOL (ft <sup>3</sup> /ac)   | 2000         | 1021        | 3021           | 1088        | 2671         | 1112        | 2590                   | 1138        | 2512         | 1155        | 2466                      | 1200        | 2365         | 1277        | 2234         | 1372        | 2121 |
| BA (ft <sup>2</sup> /ac)    | 103          | 31          | 135            | 36          | 120          | 38          | 116                    | 40          | 113          | 41          | 111                       | 44          | 106          | 49          | 101          | 54          | 96   |
| VOL (ft <sup>3</sup> /ac)   | 2500         | 979         | 3479           | 1023        | 3006         | 1040        | 2894                   | 1061        | 2786         | 1076        | 2722                      | 1115        | 2580         | 1186        | 2393         | 1280        | 2229 |
| BA (ft <sup>2</sup> /ac)    | 128          | 26          | 155            | 31          | 134          | 33          | 129                    | 34          | 125          | 36          | 122                       | 38          | 116          | 43          | 108          | 49          | 100  |
| VOL (ft <sup>3</sup> /ac)   | 3000         | 966         | 3966           | 986         | 3368         | 997         | 3226                   | 1012        | 3086         | 1023        | 3005                      | 1054        | 2820         | 1117        | 2574         | 1205        | 2354 |
| BA (ft <sup>2</sup> /ac)    | 153          | 22          | 176            | 27          | 150          | 28          | 144                    | 30          | 138          | 31          | 134                       | 34          | 126          | 38          | 115          | 44          | 106  |
| VOL (ft <sup>3</sup> /ac)   | 3500         | 973         | 4473           | 969         | 3752         | 974         | 3578                   | 983         | 3407         | 990         | 3307                      | 1013        | 3079         | 1064        | 2772         | 1144        | 2493 |
| BA (ft <sup>2</sup> /ac)    | 178          | 19          | 198            | 24          | 167          | 25          | 159                    | 27          | 152          | 28          | 147                       | 30          | 137          | 35          | 124          | 40          | 112  |
| VOL (ft <sup>3</sup> /ac)   | 4000         | 994         | 4994           | 967         | 4149         | 966         | 3945                   | 969         | 3743         | 972         | 3624                      | 987         | 3352         | 1026        | 2983         | 1096        | 2644 |
| BA (ft <sup>2</sup> /ac)    | 203          | 17          | 221            | 21          | 184          | 22          | 175                    | 24          | 166          | 25          | 161                       | 27          | 149          | 31          | 133          | 37          | 118  |
| SITE INDEX                  |              | 65          | PRESENT AGE 35 |             |              |             | PRESENT HEIGHT 48.4 FT |             |              |             | HEIGHT IN 5 YEARS 54.2 FT |             |              |             |              |             |      |
| VOL (ft <sup>3</sup> /ac)   | 2500         | 978         | 3478           | 1042        | 3025         | 1065        | 2919                   | 1092        | 2816         | 1109        | 2756                      | 1156        | 2622         | 1238        | 2446         | 1343        | 2292 |
| BA (ft <sup>2</sup> /ac)    | 112          | 25          | 138            | 30          | 120          | 32          | 116                    | 34          | 112          | 35          | 110                       | 37          | 105          | 42          | 98           | 47          | 92   |
| VOL (ft <sup>3</sup> /ac)   | 3000         | 946         | 3946           | 989         | 3372         | 1007        | 3235                   | 1028        | 3102         | 1043        | 3024                      | 1083        | 2849         | 1158        | 2615         | 1260        | 2409 |
| BA (ft <sup>2</sup> /ac)    | 134          | 22          | 156            | 26          | 134          | 28          | 129                    | 29          | 123          | 30          | 120                       | 33          | 114          | 37          | 105          | 43          | 97   |
| VOL (ft <sup>3</sup> /ac)   | 3500         | 935         | 4435           | 957         | 3740         | 969         | 3573                   | 985         | 3409         | 996         | 3313                      | 1029        | 3095         | 1096        | 2803         | 1191        | 2539 |
| BA (ft <sup>2</sup> /ac)    | 156          | 19          | 175            | 23          | 148          | 25          | 142                    | 26          | 135          | 27          | 132                       | 29          | 123          | 34          | 112          | 39          | 102  |
| VOL (ft <sup>3</sup> /ac)   | 4000         | 940         | 4940           | 940         | 4123         | 947         | 3926                   | 957         | 3732         | 965         | 3617                      | 991         | 3357         | 1047        | 3004         | 1134        | 2682 |
| BA (ft <sup>2</sup> /ac)    | 177          | 17          | 195            | 21          | 163          | 22          | 155                    | 23          | 148          | 24          | 144                       | 27          | 133          | 31          | 120          | 36          | 107  |
| VOL (ft <sup>3</sup> /ac)   | 4500         | 954         | 5454           | 935         | 4518         | 937         | 4290                   | 942         | 4066         | 947         | 3933                      | 964         | 3630         | 1009        | 3217         | 1087        | 2835 |
| BA (ft <sup>2</sup> /ac)    | 199          | 15          | 215            | 19          | 179          | 20          | 170                    | 21          | 161          | 22          | 156                       | 24          | 144          | 28          | 128          | 33          | 113  |
| VOL (ft <sup>3</sup> /ac)   | 5000         | 977         | 5977           | 939         | 4922         | 936         | 4664                   | 936         | 4410         | 937         | 4259                      | 948         | 3913         | 982         | 3439         | 1048        | 2997 |
| BA (ft <sup>2</sup> /ac)    | 221          | 14          | 235            | 17          | 194          | 18          | 184                    | 19          | 174          | 20          | 168                       | 22          | 155          | 26          | 137          | 31          | 119  |

TABLE 10 (continued)

|                           |                             | Percent thinning |             |              |             |                        |             |              |             |                           |             |              |             |              |             |              |             |
|---------------------------|-----------------------------|------------------|-------------|--------------|-------------|------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                           | Stand<br>before<br>thinning | 0                |             | 20           |             | 25                     |             | 30           |             | 33                        |             | 40           |             | 50           |             | 60           |             |
|                           |                             | 5-yr<br>grth     | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth           | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth              | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
| SITE INDEX 65             |                             | PRESENT AGE 40   |             |              |             | PRESENT HEIGHT 54.2 FT |             |              |             | HEIGHT IN 5 YEARS 59.7 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 3000                        | 922              | 3922        | 981          | 3364        | 1002                   | 3231        | 1028         | 3102        | 1045                      | 3027        | 1091         | 2857        | 1175         | 2632        | 1285         | 2433        |
| BA (ft <sup>2</sup> /ac)  | 119                         | 21               | 141         | 25           | 121         | 27                     | 117         | 28           | 112         | 29                        | 109         | 31           | 103         | 35           | 95          | 40           | 88          |
| VOL (ft <sup>3</sup> /ac) | 3500                        | 899              | 4399        | 938          | 3721        | 955                    | 3558        | 975          | 3400        | 990                       | 3306        | 1029         | 3095        | 1105         | 2813        | 1210         | 2559        |
| BA (ft <sup>2</sup> /ac)  | 139                         | 18               | 158         | 22           | 134         | 24                     | 128         | 25           | 122         | 26                        | 119         | 28           | 112         | 32           | 102         | 37           | 93          |
| VOL (ft <sup>3</sup> /ac) | 4000                        | 891              | 4891        | 911          | 4094        | 923                    | 3902        | 939          | 3713        | 950                       | 3602        | 983          | 3349        | 1050         | 3007        | 1148         | 2696        |
| BA (ft <sup>2</sup> /ac)  | 158                         | 16               | 175         | 20           | 147         | 21                     | 140         | 22           | 134         | 23                        | 130         | 25           | 121         | 29           | 109         | 34           | 98          |
| VOL (ft <sup>3</sup> /ac) | 4500                        | 895              | 5395        | 897          | 4480        | 904                    | 4257        | 914          | 4039        | 923                       | 3909        | 949          | 3614        | 1006         | 3213        | 1095         | 2844        |
| BA (ft <sup>2</sup> /ac)  | 178                         | 15               | 193         | 18           | 161         | 19                     | 153         | 20           | 145         | 21                        | 140         | 23           | 130         | 27           | 116         | 32           | 103         |
| VOL (ft <sup>3</sup> /ac) | 5000                        | 907              | 5907        | 892          | 4874        | 894                    | 4623        | 900          | 4374        | 905                       | 4227        | 924          | 3890        | 971          | 3428        | 1051         | 3000        |
| BA (ft <sup>2</sup> /ac)  | 197                         | 13               | 211         | 16           | 175         | 17                     | 166         | 18           | 157         | 19                        | 152         | 21           | 140         | 25           | 123         | 29           | 108         |
| VOL (ft <sup>3</sup> /ac) | 5500                        | 925              | 6425        | 893          | 5276        | 891                    | 4995        | 893          | 4717        | 895                       | 4552        | 908          | 4173        | 945          | 3652        | 1015         | 3164        |
| BA (ft <sup>2</sup> /ac)  | 217                         | 12               | 229         | 15           | 189         | 16                     | 179         | 17           | 169         | 18                        | 163         | 19           | 150         | 23           | 131         | 27           | 114         |
| VOL (ft <sup>3</sup> /ac) | 6000                        | 949              | 6949        | 901          | 5684        | 895                    | 5373        | 892          | 5066        | 891                       | 4883        | 897          | 4463        | 925          | 3882        | 985          | 3334        |
| BA (ft <sup>2</sup> /ac)  | 236                         | 11               | 248         | 14           | 203         | 15                     | 192         | 16           | 181         | 16                        | 175         | 18           | 160         | 21           | 139         | 25           | 120         |
| SITE INDEX 65             |                             | PRESENT AGE 45   |             |              |             | PRESENT HEIGHT 59.7 FT |             |              |             | HEIGHT IN 5 YEARS 65.0 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 3500                        | 851              | 4351        | 901          | 3684        | 920                    | 3524        | 943          | 3368        | 959                       | 3276        | 1002         | 3068        | 1083         | 2790        | 1193         | 2542        |
| BA (ft <sup>2</sup> /ac)  | 126                         | 17               | 143         | 21           | 122         | 22                     | 117         | 23           | 111         | 24                        | 109         | 26           | 102         | 30           | 93          | 34           | 85          |
| VOL (ft <sup>3</sup> /ac) | 4000                        | 837              | 4837        | 868          | 4051        | 883                    | 3862        | 902          | 3676        | 915                       | 3566        | 952          | 3317        | 1024         | 2981        | 1128         | 2676        |
| BA (ft <sup>2</sup> /ac)  | 144                         | 15               | 159         | 18           | 134         | 19                     | 128         | 21           | 121         | 21                        | 118         | 23           | 110         | 27           | 99          | 31           | 89          |
| VOL (ft <sup>3</sup> /ac) | 4500                        | 833              | 5333        | 848          | 4431        | 858                    | 4212        | 872          | 3997        | 883                       | 3869        | 913          | 3579        | 977          | 3184        | 1073         | 2821        |
| BA (ft <sup>2</sup> /ac)  | 161                         | 13               | 175         | 17           | 146         | 18                     | 139         | 19           | 132         | 19                        | 128         | 21           | 118         | 25           | 106         | 29           | 94          |
| VOL (ft <sup>3</sup> /ac) | 5000                        | 838              | 5838        | 837          | 4820        | 843                    | 4572        | 853          | 4327        | 860                       | 4182        | 884          | 3850        | 939          | 3396        | 1026         | 2975        |
| BA (ft <sup>2</sup> /ac)  | 179                         | 12               | 192         | 15           | 159         | 16                     | 151         | 17           | 143         | 18                        | 138         | 19           | 127         | 23           | 112         | 27           | 99          |
| VOL (ft <sup>3</sup> /ac) | 5500                        | 849              | 6349        | 833          | 5216        | 835                    | 4939        | 840          | 4665        | 845                       | 4502        | 863          | 4129        | 909          | 3616        | 987          | 3136        |
| BA (ft <sup>2</sup> /ac)  | 197                         | 11               | 208         | 14           | 171         | 15                     | 162         | 16           | 154         | 16                        | 148         | 18           | 136         | 21           | 120         | 25           | 104         |
| VOL (ft <sup>3</sup> /ac) | 6000                        | 865              | 6865        | 835          | 5618        | 833                    | 5312        | 834          | 5009        | 837                       | 4828        | 849          | 4414        | 885          | 3842        | 954          | 3303        |
| BA (ft <sup>2</sup> /ac)  | 214                         | 10               | 225         | 13           | 184         | 13                     | 175         | 14           | 165         | 15                        | 159         | 17           | 145         | 20           | 127         | 23           | 109         |
| VOL (ft <sup>3</sup> /ac) | 6500                        | 885              | 7385        | 841          | 6024        | 836                    | 5689        | 833          | 5357        | 833                       | 5160        | 839          | 4705        | 867          | 4074        | 927          | 3475        |
| BA (ft <sup>2</sup> /ac)  | 232                         | 9                | 242         | 12           | 198         | 12                     | 187         | 13           | 176         | 14                        | 170         | 15           | 155         | 18           | 134         | 22           | 115         |
| VOL (ft <sup>3</sup> /ac) | 7000                        | 909              | 7909        | 851          | 6434        | 842                    | 6071        | 836          | 5710        | 834                       | 5495        | 834          | 5000        | 853          | 4310        | 904          | 3653        |
| BA (ft <sup>2</sup> /ac)  | 249                         | 9                | 259         | 11           | 211         | 12                     | 199         | 12           | 187         | 13                        | 180         | 14           | 164         | 17           | 142         | 21           | 121         |

TABLE 10 (continued)

|                           |      | Percent thinning      |      |                |          |           |          |                        |          |           |          |                           |          |           |          |           |          |           |          |
|---------------------------|------|-----------------------|------|----------------|----------|-----------|----------|------------------------|----------|-----------|----------|---------------------------|----------|-----------|----------|-----------|----------|-----------|----------|
|                           |      | Stand before thinning |      | 0              |          | 20        |          | 25                     |          | 30        |          | 33                        |          | 40        |          | 50        |          | 60        |          |
|                           |      |                       |      | 5-yr grth      | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth              | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth                 | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld |
|                           |      | SITE INDEX 65         |      | PRESENT AGE 50 |          |           |          | PRESENT HEIGHT 65.0 FT |          |           |          | HEIGHT IN 5 YEARS 70.0 FT |          |           |          |           |          |           |          |
| VOL (ft <sup>3</sup> /ac) | 3500 | 783                   | 4283 | 835            | 3618     | 855       | 3459     | 878                    | 3303     | 894       | 3211     | 938                       | 3004     | 1019      | 2726     | 1128      | 2476     |           |          |
| BA (ft <sup>2</sup> /ac)  | 116  | 15                    | 131  | 18             | 111      | 19        | 106      | 20                     | 102      | 21        | 99       | 23                        | 93       | 26        | 84       | 30        | 77       |           |          |
| VOL (ft <sup>3</sup> /ac) | 4000 | 765                   | 4765 | 801            | 3984     | 817       | 3795     | 836                    | 3610     | 849       | 3501     | 887                       | 3253     | 960       | 2917     | 1063      | 2611     |           |          |
| BA (ft <sup>2</sup> /ac)  | 132  | 13                    | 146  | 16             | 122      | 17        | 116      | 18                     | 111      | 19        | 108      | 21                        | 100      | 24        | 90       | 28        | 81       |           |          |
| VOL (ft <sup>3</sup> /ac) | 4500 | 758                   | 5258 | 779            | 4362     | 790       | 4144     | 805                    | 3930     | 816       | 3803     | 848                       | 3513     | 912       | 3119     | 1008      | 2757     |           |          |
| BA (ft <sup>2</sup> /ac)  | 148  | 12                    | 160  | 14             | 133      | 15        | 127      | 16                     | 120      | 17        | 117      | 19                        | 108      | 22        | 96       | 26        | 85       |           |          |
| VOL (ft <sup>3</sup> /ac) | 5000 | 759                   | 5759 | 765            | 4748     | 773       | 4502     | 784                    | 4258     | 792       | 4114     | 818                       | 3784     | 874       | 3331     | 962       | 2910     |           |          |
| BA (ft <sup>2</sup> /ac)  | 164  | 11                    | 176  | 13             | 145      | 14        | 138      | 15                     | 130      | 15        | 126      | 17                        | 116      | 20        | 102      | 24        | 90       |           |          |
| VOL (ft <sup>3</sup> /ac) | 5500 | 766                   | 6266 | 759            | 5142     | 763       | 4866     | 770                    | 4594     | 776       | 4433     | 796                       | 4061     | 843       | 3550     | 922       | 3071     |           |          |
| BA (ft <sup>2</sup> /ac)  | 181  | 10                    | 191  | 12             | 157      | 13        | 149      | 14                     | 140      | 14        | 136      | 16                        | 124      | 18        | 109      | 22        | 95       |           |          |
| VOL (ft <sup>3</sup> /ac) | 6000 | 778                   | 6778 | 758            | 5541     | 758       | 5237     | 762                    | 4936     | 765       | 4757     | 780                       | 4345     | 819       | 3776     | 889       | 3238     |           |          |
| BA (ft <sup>2</sup> /ac)  | 197  | 9                     | 206  | 11             | 169      | 12        | 160      | 13                     | 151      | 13        | 145      | 15                        | 133      | 17        | 116      | 21        | 100      |           |          |
| VOL (ft <sup>3</sup> /ac) | 6500 | 794                   | 7294 | 761            | 5944     | 758       | 5612     | 758                    | 5282     | 759       | 5086     | 769                       | 4634     | 800       | 4007     | 862       | 3410     |           |          |
| BA (ft <sup>2</sup> /ac)  | 213  | 8                     | 222  | 10             | 181      | 11        | 171      | 12                     | 161      | 12        | 155      | 14                        | 142      | 16        | 123      | 19        | 105      |           |          |
| VOL (ft <sup>3</sup> /ac) | 7000 | 813                   | 7813 | 768            | 6351     | 762       | 5990     | 758                    | 5633     | 758       | 5419     | 762                       | 4927     | 785       | 4242     | 839       | 3587     |           |          |
| BA (ft <sup>2</sup> /ac)  | 229  | 8                     | 237  | 10             | 193      | 10        | 182      | 11                     | 172      | 11        | 165      | 13                        | 150      | 15        | 130      | 18        | 110      |           |          |
| VOL (ft <sup>3</sup> /ac) | 7500 | 834                   | 8334 | 778            | 6761     | 768       | 6372     | 762                    | 5986     | 759       | 5756     | 758                       | 5224     | 774       | 4481     | 819       | 3768     |           |          |
| BA (ft <sup>2</sup> /ac)  | 245  | 7                     | 253  | 9              | 206      | 10        | 194      | 10                     | 182      | 11        | 175      | 12                        | 159      | 14        | 137      | 17        | 116      |           |          |
|                           |      | SITE INDEX 65         |      | PRESENT AGE 55 |          |           |          | PRESENT HEIGHT 70.0 FT |          |           |          | HEIGHT IN 5 YEARS 74.7 FT |          |           |          |           |          |           |          |
| VOL (ft <sup>3</sup> /ac) | 4000 | 668                   | 4668 | 701            | 3884     | 715       | 3693     | 732                    | 3506     | 744       | 3396     | 778                       | 3144     | 845       | 2802     | 940       | 2489     |           |          |
| BA (ft <sup>2</sup> /ac)  | 123  | 11                    | 134  | 13             | 111      | 14        | 106      | 15                     | 101      | 15        | 98       | 17                        | 91       | 19        | 81       | 23        | 72       |           |          |
| VOL (ft <sup>3</sup> /ac) | 4500 | 662                   | 5162 | 681            | 4263     | 691       | 4045     | 704                    | 3829     | 714       | 3701     | 743                       | 3408     | 801       | 3008     | 889       | 2638     |           |          |
| BA (ft <sup>2</sup> /ac)  | 138  | 9                     | 148  | 12             | 122      | 12        | 116      | 13                     | 110      | 14        | 106      | 15                        | 98       | 18        | 87       | 21        | 76       |           |          |
| VOL (ft <sup>3</sup> /ac) | 5000 | 663                   | 5663 | 669            | 4651     | 675       | 4404     | 685                    | 4159     | 693       | 4014     | 716                       | 3681     | 766       | 3223     | 846       | 2795     |           |          |
| BA (ft <sup>2</sup> /ac)  | 153  | 9                     | 162  | 11             | 133      | 11        | 126      | 12                     | 119      | 13        | 115      | 14                        | 106      | 16        | 93       | 20        | 81       |           |          |
| VOL (ft <sup>3</sup> /ac) | 5500 | 669                   | 6169 | 663            | 5046     | 666       | 4770     | 673                    | 4497     | 678       | 4335     | 696                       | 3961     | 738       | 3446     | 811       | 2959     |           |          |
| BA (ft <sup>2</sup> /ac)  | 168  | 8                     | 176  | 10             | 144      | 10        | 136      | 11                     | 129      | 12        | 124      | 13                        | 114      | 15        | 99       | 18        | 85       |           |          |
| VOL (ft <sup>3</sup> /ac) | 6000 | 680                   | 6680 | 662            | 5445     | 662       | 5141     | 665                    | 4839     | 668       | 4660     | 681                       | 4247     | 716       | 3674     | 781       | 3129     |           |          |
| BA (ft <sup>2</sup> /ac)  | 183  | 7                     | 190  | 9              | 156      | 10        | 147      | 10                     | 138      | 11        | 133      | 12                        | 122      | 14        | 106      | 17        | 90       |           |          |
| VOL (ft <sup>3</sup> /ac) | 6500 | 694                   | 7194 | 665            | 5848     | 662       | 5516     | 662                    | 5186     | 663       | 4990     | 671                       | 4537     | 699       | 3906     | 755       | 3304     |           |          |
| BA (ft <sup>2</sup> /ac)  | 198  | 7                     | 205  | 8              | 167      | 9         | 158      | 9                      | 148      | 10        | 143      | 11                        | 130      | 13        | 112      | 16        | 95       |           |          |
| VOL (ft <sup>3</sup> /ac) | 7000 | 710                   | 7710 | 671            | 6254     | 665       | 5894     | 662                    | 5537     | 662       | 5323     | 665                       | 4831     | 686       | 4143     | 734       | 3483     |           |          |
| BA (ft <sup>2</sup> /ac)  | 213  | 6                     | 219  | 8              | 178      | 8         | 168      | 9                      | 158      | 9         | 152      | 10                        | 138      | 12        | 119      | 15        | 100      |           |          |
| VOL (ft <sup>3</sup> /ac) | 7500 | 729                   | 8229 | 680            | 6662     | 671       | 6275     | 665                    | 5890     | 663       | 5660     | 662                       | 5128     | 676       | 4383     | 717       | 3666     |           |          |
| BA (ft <sup>2</sup> /ac)  | 228  | 6                     | 234  | 7              | 190      | 8         | 179      | 8                      | 168      | 9         | 162      | 10                        | 147      | 11        | 126      | 14        | 105      |           |          |
| VOL (ft <sup>3</sup> /ac) | 8000 | 750                   | 8750 | 690            | 7073     | 679       | 6658     | 671                    | 6245     | 667       | 5998     | 662                       | 5428     | 669       | 4626     | 703       | 3851     |           |          |
| BA (ft <sup>2</sup> /ac)  | 243  | 5                     | 249  | 7              | 201      | 7         | 190      | 8                      | 178      | 8         | 171      | 9                         | 155      | 11        | 132      | 13        | 111      |           |          |
| VOL (ft <sup>3</sup> /ac) | 8500 | 772                   | 9272 | 703            | 7486     | 689       | 7043     | 678                    | 6602     | 673       | 6339     | 664                       | 5729     | 665       | 4872     | 691       | 4040     |           |          |
| BA (ft <sup>2</sup> /ac)  | 258  | 5                     | 263  | 6              | 213      | 7         | 201      | 7                      | 188      | 8         | 181      | 8                         | 164      | 10        | 139      | 12        | 116      |           |          |

TABLE 10 (continued)

| Stand<br>before<br>thinning | Percent thinning |             |              |             |              |             |                |             |              |             |                   |             |              |             |              |             |      |
|-----------------------------|------------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------------|-------------|------|
|                             | 0                |             | 20           |             | 25           |             | 30             |             | 33           |             | 40                |             | 50           |             | 60           |             |      |
|                             | 5-yr<br>grth     | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth   | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth      | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |      |
| SITE INDEX                  | 65               |             | PRESENT AGE  |             | 60           |             | PRESENT HEIGHT |             | 74.7 FT      |             | HEIGHT IN 5 YEARS |             | 79.1 FT      |             |              |             |      |
| VOL (ft <sup>3</sup> /ac)   | 4500             | 538         | 5038         | 545         | 4128         | 551         | 3905           | 560         | 3684         | 567         | 3553              | 587         | 3253         | 631         | 2838         | 700         | 2449 |
| BA (ft <sup>2</sup> /ac)    | 129              | 7           | 136          | 8           | 112          | 9           | 106            | 9           | 100          | 10          | 96                | 11          | 88           | 13          | 77           | 15          | 67   |
| VOL (ft <sup>3</sup> /ac)   | 5000             | 542         | 5542         | 539         | 4521         | 542         | 4270           | 547         | 4022         | 552         | 3874              | 568         | 3533         | 604         | 3061         | 666         | 2615 |
| BA (ft <sup>2</sup> /ac)    | 143              | 6           | 149          | 7           | 122          | 8           | 116            | 8           | 109          | 9           | 105               | 10          | 96           | 12          | 83           | 14          | 71   |
| VOL (ft <sup>3</sup> /ac)   | 5500             | 551         | 6051         | 537         | 4920         | 538         | 4641           | 540         | 4365         | 543         | 4200              | 554         | 3820         | 584         | 3291         | 638         | 2787 |
| BA (ft <sup>2</sup> /ac)    | 157              | 5           | 163          | 7           | 133          | 7           | 125            | 8           | 118          | 8           | 114               | 9           | 104          | 11          | 89           | 13          | 76   |
| VOL (ft <sup>3</sup> /ac)   | 6000             | 564         | 6564         | 540         | 5323         | 537         | 5016           | 537         | 4712         | 538         | 4530              | 545         | 4111         | 568         | 3525         | 615         | 2964 |
| BA (ft <sup>2</sup> /ac)    | 171              | 5           | 177          | 6           | 144          | 7           | 135            | 7           | 127          | 7           | 122               | 8           | 111          | 10          | 96           | 12          | 81   |
| VOL (ft <sup>3</sup> /ac)   | 6500             | 578         | 7078         | 545         | 5728         | 540         | 5394           | 538         | 5062         | 537         | 4864              | 540         | 4406         | 556         | 3764         | 596         | 3145 |
| BA (ft <sup>2</sup> /ac)    | 185              | 4           | 190          | 6           | 154          | 6           | 145            | 7           | 137          | 7           | 131               | 8           | 119          | 9           | 102          | 11          | 86   |
| VOL (ft <sup>3</sup> /ac)   | 7000             | 595         | 7595         | 553         | 6136         | 546         | 5775           | 541         | 5415         | 539         | 5200              | 537         | 4703         | 548         | 4005         | 581         | 3329 |
| BA (ft <sup>2</sup> /ac)    | 199              | 4           | 204          | 5           | 165          | 6           | 156            | 6           | 146          | 6           | 140               | 7           | 127          | 8           | 108          | 10          | 90   |
| VOL (ft <sup>3</sup> /ac)   | 7500             | 614         | 8114         | 563         | 6546         | 554         | 6157           | 546         | 5770         | 542         | 5539              | 537         | 5003         | 542         | 4249         | 569         | 3517 |
| BA (ft <sup>2</sup> /ac)    | 213              | 4           | 218          | 5           | 176          | 5           | 166            | 6           | 155          | 6           | 149               | 7           | 135          | 8           | 115          | 10          | 95   |
| VOL (ft <sup>3</sup> /ac)   | 8000             | 633         | 8633         | 575         | 6958         | 563         | 6542           | 553         | 6127         | 548         | 5880              | 540         | 5305         | 539         | 4496         | 559         | 3707 |
| BA (ft <sup>2</sup> /ac)    | 228              | 4           | 232          | 5           | 187          | 5           | 176            | 5           | 165          | 6           | 158               | 6           | 143          | 7           | 122          | 9           | 101  |
| VOL (ft <sup>3</sup> /ac)   | 8500             | 654         | 9154         | 586         | 7371         | 574         | 6927           | 562         | 6486         | 555         | 6222              | 543         | 5609         | 537         | 4744         | 551         | 3900 |
| BA (ft <sup>2</sup> /ac)    | 242              | 3           | 246          | 4           | 198          | 5           | 186            | 5           | 174          | 5           | 167               | 6           | 151          | 7           | 128          | 9           | 106  |
| VOL (ft <sup>3</sup> /ac)   | 9000             | 676         | 9676         | 602         | 7785         | 586         | 7314           | 571         | 6846         | 564         | 6565              | 549         | 5914         | 537         | 4995         | 546         | 4094 |
| BA (ft <sup>2</sup> /ac)    | 256              | 3           | 259          | 4           | 209          | 4           | 197            | 5           | 184          | 5           | 177               | 5           | 159          | 7           | 135          | 8           | 111  |

TABLE 10 (continued)

| Percent thinning          |                             |                |             |              |             |              |             |                        |             |              |             |                           |             |              |             |              |             |
|---------------------------|-----------------------------|----------------|-------------|--------------|-------------|--------------|-------------|------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|--------------|-------------|
|                           | Stand<br>before<br>thinning | 0              |             | 20           |             | 25           |             | 30                     |             | 33           |             | 40                        |             | 50           |             | 60           |             |
|                           |                             | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth           | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth              | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
| SITE INDEX 70             |                             | PRESENT AGE 20 |             |              |             |              |             | PRESENT HEIGHT 31.5 FT |             |              |             | HEIGHT IN 5 YEARS 38.7 FT |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 1000                        | 1179           | 2179        | 1251         | 2034        | 1272         | 2001        | 1296                   | 1970        | 1310         | 1952        | 1347                      | 1913        | 1406         | 1864        | 1474         | 1822        |
| BA (ft <sup>2</sup> /ac)  | 72                          | 50             | 123         | 57           | 115         | 59           | 113         | 61                     | 111         | 62           | 111         | 65                        | 108         | 69           | 106         | 74           | 103         |
| VOL (ft <sup>3</sup> /ac) | 1500                        | 1086           | 2586        | 1135         | 2318        | 1153         | 2256        | 1173                   | 2197        | 1186         | 2163        | 1221                      | 2086        | 1281         | 1988        | 1356         | 1905        |
| BA (ft <sup>2</sup> /ac)  | 105                         | 39             | 145         | 46           | 130         | 48           | 127         | 50                     | 124         | 51           | 122         | 54                        | 118         | 60           | 112         | 66           | 108         |
| VOL (ft <sup>3</sup> /ac) | 2000                        | 1061           | 3061        | 1078         | 2661        | 1089         | 2567        | 1102                   | 2476        | 1111         | 2423        | 1139                      | 2304        | 1192         | 2149        | 1264         | 2013        |
| BA (ft <sup>2</sup> /ac)  | 139                         | 32             | 171         | 38           | 149         | 40           | 144         | 42                     | 139         | 43           | 136         | 46                        | 130         | 52           | 121         | 58           | 114         |
| VOL (ft <sup>3</sup> /ac) | 2500                        | 1077           | 3577        | 1061         | 3044        | 1063         | 2917        | 1068                   | 2793        | 1073         | 2720        | 1090                      | 2556        | 1130         | 2337        | 1194         | 2143        |
| BA (ft <sup>2</sup> /ac)  | 172                         | 26             | 199         | 32           | 170         | 33           | 163         | 35                     | 156         | 37           | 152         | 40                        | 143         | 45           | 131         | 52           | 121         |
| SITE INDEX 70             |                             | PRESENT AGE 25 |             |              |             |              |             | PRESENT HEIGHT 38.7 FT |             |              |             | HEIGHT IN 5 YEARS 45.5 FT |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 1500                        | 1150           | 2650        | 1227         | 2410        | 1252         | 2356        | 1279                   | 2303        | 1296         | 2273        | 1341                      | 2207        | 1414         | 2121        | 1501         | 2049        |
| BA (ft <sup>2</sup> /ac)  | 86                          | 40             | 126         | 46           | 115         | 48           | 112         | 50                     | 110         | 51           | 109         | 54                        | 106         | 58           | 102         | 64           | 98          |
| VOL (ft <sup>3</sup> /ac) | 2000                        | 1081           | 3081        | 1135         | 2717        | 1154         | 2633        | 1177                   | 2551        | 1192         | 2504        | 1233                      | 2398        | 1304         | 2261        | 1394         | 2142        |
| BA (ft <sup>2</sup> /ac)  | 113                         | 32             | 146         | 38           | 129         | 40           | 125         | 42                     | 122         | 43           | 119         | 46                        | 114         | 51           | 108         | 57           | 103         |
| VOL (ft <sup>3</sup> /ac) | 2500                        | 1056           | 3556        | 1082         | 3065        | 1096         | 2949        | 1112                   | 2836        | 1124         | 2771        | 1157                      | 2623        | 1220         | 2427        | 1307         | 2256        |
| BA (ft <sup>2</sup> /ac)  | 140                         | 27             | 168         | 33           | 145         | 34           | 140         | 36                     | 135         | 37           | 132         | 40                        | 125         | 45           | 116         | 52           | 108         |
| VOL (ft <sup>3</sup> /ac) | 3000                        | 1060           | 4060        | 1059         | 3442        | 1065         | 3294        | 1075                   | 3149        | 1082         | 3064        | 1106                      | 2872        | 1159         | 2616        | 1238         | 2386        |
| BA (ft <sup>2</sup> /ac)  | 168                         | 23             | 191         | 28           | 163         | 30           | 156         | 32                     | 149         | 33           | 145         | 36                        | 136         | 40           | 125         | 47           | 114         |
| VOL (ft <sup>3</sup> /ac) | 3500                        | 1085           | 4585        | 1056         | 3839        | 1055         | 3659        | 1058                   | 3482        | 1061         | 3378        | 1075                      | 3141        | 1115         | 2822        | 1183         | 2532        |
| BA (ft <sup>2</sup> /ac)  | 195                         | 20             | 216         | 25           | 181         | 26           | 173         | 28                     | 165         | 29           | 160         | 32                        | 149         | 36           | 134         | 43           | 121         |
| SITE INDEX 70             |                             | PRESENT AGE 30 |             |              |             |              |             | PRESENT HEIGHT 45.5 FT |             |              |             | HEIGHT IN 5 YEARS 52.1 FT |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 2000                        | 1110           | 3110        | 1188         | 2771        | 1214         | 2693        | 1243                   | 2618        | 1262         | 2574        | 1311                      | 2477        | 1395         | 2352        | 1496         | 2245        |
| BA (ft <sup>2</sup> /ac)  | 96                          | 32             | 129         | 38           | 115         | 40           | 112         | 41                     | 109         | 42           | 107         | 45                        | 103         | 50           | 98          | 55           | 94          |
| VOL (ft <sup>3</sup> /ac) | 2500                        | 1057           | 3557        | 1112         | 3095        | 1133         | 2987        | 1157                   | 2882        | 1174         | 2821        | 1218                      | 2684        | 1297         | 2504        | 1399         | 2347        |
| BA (ft <sup>2</sup> /ac)  | 119                         | 27             | 147         | 32           | 128         | 34           | 124         | 36                     | 120         | 37           | 117         | 40                        | 112         | 44           | 104         | 50           | 98          |
| VOL (ft <sup>3</sup> /ac) | 3000                        | 1035           | 4035        | 1066         | 3449        | 1081         | 3309        | 1099                   | 3174        | 1112         | 3094        | 1149                      | 2915        | 1220         | 2677        | 1318         | 2466        |
| BA (ft <sup>2</sup> /ac)  | 142                         | 23             | 166         | 28           | 142         | 30           | 137         | 31                     | 131         | 32           | 128         | 35                        | 121         | 40           | 111         | 46           | 103         |
| VOL (ft <sup>3</sup> /ac) | 3500                        | 1034           | 4534        | 1041         | 3824        | 1050         | 3654        | 1062                   | 3487        | 1072         | 3389        | 1101                      | 3166        | 1161         | 2868        | 1251         | 2600        |
| BA (ft <sup>2</sup> /ac)  | 165                         | 20             | 186         | 25           | 158         | 26           | 151         | 28                     | 144         | 29           | 140         | 32                        | 131         | 36           | 119         | 42           | 108         |
| VOL (ft <sup>3</sup> /ac) | 4000                        | 1049           | 5049        | 1032         | 4215        | 1035         | 4014        | 1041                   | 3816        | 1047         | 3699        | 1067                      | 3433        | 1116         | 3073        | 1197         | 2745        |
| BA (ft <sup>2</sup> /ac)  | 189                         | 18             | 207         | 22           | 173         | 24           | 165         | 25                     | 157         | 26           | 153         | 28                        | 142         | 33           | 127         | 38           | 114         |
| VOL (ft <sup>3</sup> /ac) | 4500                        | 1074           | 5574        | 1036         | 4618        | 1032         | 4386        | 1033                   | 4157        | 1035         | 4022        | 1047                      | 3712        | 1083         | 3290        | 1153         | 2901        |
| BA (ft <sup>2</sup> /ac)  | 212                         | 16             | 228         | 20           | 190         | 21           | 180         | 23                     | 171         | 23           | 166         | 26                        | 153         | 30           | 136         | 35           | 120         |
| SITE INDEX 70             |                             | PRESENT AGE 35 |             |              |             |              |             | PRESENT HEIGHT 52.1 FT |             |              |             | HEIGHT IN 5 YEARS 58.4 FT |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 2500                        | 1057           | 3557        | 1133         | 3115        | 1159         | 3012        | 1188                   | 2913        | 1208         | 2854        | 1259                      | 2725        | 1348         | 2556        | 1460         | 2409        |
| BA (ft <sup>2</sup> /ac)  | 104                         | 26             | 131         | 31           | 115         | 33           | 111         | 35                     | 108         | 36           | 106         | 38                        | 101         | 43           | 95          | 48           | 90          |
| VOL (ft <sup>3</sup> /ac) | 3000                        | 1016           | 4016        | 1070         | 3453        | 1091         | 3320        | 1116                   | 3190        | 1133         | 3115        | 1178                      | 2944        | 1262         | 2719        | 1372         | 2520        |
| BA (ft <sup>2</sup> /ac)  | 124                         | 23             | 148         | 27           | 127         | 29           | 122         | 30                     | 118         | 31           | 115         | 34                        | 109         | 38           | 101         | 44           | 94          |
| VOL (ft <sup>3</sup> /ac) | 3500                        | 998            | 4498        | 1031         | 3813        | 1046         | 3650        | 1065                   | 3490        | 1079         | 3396        | 1118                      | 3183        | 1192         | 2900        | 1297         | 2646        |
| BA (ft <sup>2</sup> /ac)  | 145                         | 20             | 165         | 24           | 140         | 26           | 134         | 27                     | 129         | 28           | 125         | 31                        | 118         | 35           | 107         | 40           | 98          |
| VOL (ft <sup>3</sup> /ac) | 4000                        | 996            | 4996        | 1007         | 4190        | 1017         | 3996        | 1031                   | 3805        | 1042         | 3693        | 1073                      | 3438        | 1136         | 3095        | 1235         | 2783        |
| BA (ft <sup>2</sup> /ac)  | 165                         | 18             | 183         | 22           | 154         | 23           | 147         | 24                     | 140         | 25           | 136         | 28                        | 127         | 32           | 114         | 37           | 103         |
| VOL (ft <sup>3</sup> /ac) | 4500                        | 1006           | 5506        | 997          | 4579        | 1001         | 4355        | 1010                   | 4134        | 1017         | 4004        | 1040                      | 3706        | 1095         | 3302        | 1182         | 2931        |
| BA (ft <sup>2</sup> /ac)  | 185                         | 16             | 201         | 20           | 168         | 21           | 160         | 22                     | 152         | 23           | 147         | 25                        | 136         | 29           | 122         | 34           | 108         |
| VOL (ft <sup>3</sup> /ac) | 5000                        | 1024           | 6024        | 996          | 4979        | 995          | 4724        | 998                    | 4473        | 1002         | 4324        | 1018                      | 3984        | 1062         | 3519        | 1139         | 3088        |
| BA (ft <sup>2</sup> /ac)  | 205                         | 14             | 220         | 18           | 182         | 19           | 173         | 20                     | 164         | 21           | 159         | 23                        | 146         | 27           | 130         | 32           | 114         |
| VOL (ft <sup>3</sup> /ac) | 5500                        | 1049           | 6549        | 1002         | 5385        | 997          | 5101        | 995                    | 4819        | 996          | 4653        | 1004                      | 4270        | 1037         | 3744        | 1104         | 3252        |
| BA (ft <sup>2</sup> /ac)  | 225                         | 13             | 239         | 16           | 197         | 17           | 187         | 18                     | 177         | 19           | 171         | 21                        | 157         | 25           | 138         | 30           | 120         |

TABLE 10 (continued)

| Stand<br>before<br>thinning |      | Percent thinning |             |              |             |                        |             |              |             |                           |             |              |             |              |             |              |             |
|-----------------------------|------|------------------|-------------|--------------|-------------|------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                             |      | 0                |             | 20           |             | 25                     |             | 30           |             | 33                        |             | 40           |             | 50           |             | 60           |             |
|                             |      | 5-yr<br>grth     | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth           | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth              | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |
| SITE INDEX 70               |      | PRESENT AGE 40   |             |              |             | PRESENT HEIGHT 58.4 FT |             |              |             | HEIGHT IN 5 YEARS 64.3 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac)   | 3000 | 988              | 3988        | 1057         | 3440        | 1082                   | 3310        | 1110         | 3185        | 1129                      | 3111        | 1180         | 2946        | 1271         | 2728        | 1388         | 2537        |
| BA (ft <sup>2</sup> /ac)    | 111  | 22               | 133         | 26           | 115         | 27                     | 111         | 29           | 107         | 30                        | 104         | 32           | 99          | 36           | 92          | 41           | 85          |
| VOL (ft <sup>3</sup> /ac)   | 3500 | 959              | 4458        | 1007         | 3790        | 1027                   | 3631        | 1051         | 3475        | 1067                      | 3384        | 1112         | 3178        | 1196         | 2903        | 1309         | 2658        |
| BA (ft <sup>2</sup> /ac)    | 129  | 19               | 148         | 23           | 126         | 24                     | 121         | 26           | 116         | 26                        | 113         | 29           | 106         | 33           | 97          | 38           | 89          |
| VOL (ft <sup>3</sup> /ac)   | 4000 | 945              | 4945        | 975          | 4157        | 989                    | 3968        | 1008         | 3782        | 1021                      | 3673        | 1060         | 3425        | 1135         | 3092        | 1242         | 2790        |
| BA (ft <sup>2</sup> /ac)    | 147  | 17               | 164         | 21           | 139         | 22                     | 132         | 23           | 126         | 24                        | 123         | 26           | 115         | 30           | 104         | 35           | 94          |
| VOL (ft <sup>3</sup> /ac)   | 4500 | 943              | 5443        | 955          | 4538        | 965                    | 4318        | 978          | 4103        | 989                       | 3976        | 1020         | 3686        | 1085         | 3293        | 1185         | 2933        |
| BA (ft <sup>2</sup> /ac)    | 165  | 15               | 181         | 19           | 151         | 20                     | 144         | 21           | 137         | 22                        | 133         | 24           | 123         | 27           | 110         | 32           | 98          |
| VOL (ft <sup>3</sup> /ac)   | 5000 | 951              | 5951        | 945          | 4928        | 950                    | 4679        | 959          | 4433        | 966                       | 4288        | 991          | 3956        | 1046         | 3503        | 1137         | 3085        |
| BA (ft <sup>2</sup> /ac)    | 183  | 14               | 197         | 17           | 164         | 18                     | 156         | 19           | 148         | 20                        | 143         | 22           | 132         | 25           | 117         | 30           | 103         |
| VOL (ft <sup>3</sup> /ac)   | 5500 | 966              | 6466        | 943          | 5326        | 943                    | 5047        | 948          | 4772        | 952                       | 4609        | 970          | 4235        | 1015         | 3722        | 1096         | 3245        |
| BA (ft <sup>2</sup> /ac)    | 201  | 12               | 214         | 15           | 177         | 16                     | 168         | 17           | 159         | 18                        | 153         | 20           | 141         | 23           | 124         | 28           | 109         |
| VOL (ft <sup>3</sup> /ac)   | 6000 | 986              | 6986        | 947          | 5730        | 943                    | 5422        | 943          | 5117        | 945                       | 4936        | 955          | 4521        | 991          | 3948        | 1062         | 3411        |
| BA (ft <sup>2</sup> /ac)    | 219  | 11               | 231         | 14           | 190         | 15                     | 180         | 16           | 170         | 17                        | 164         | 19           | 150         | 22           | 132         | 26           | 114         |
| VOL (ft <sup>3</sup> /ac)   | 6500 | 1011             | 7511        | 956          | 6139        | 948                    | 5802        | 944          | 5468        | 943                       | 5269        | 947          | 4813        | 973          | 4180        | 1034         | 3583        |
| BA (ft <sup>2</sup> /ac)    | 237  | 11               | 248         | 13           | 203         | 14                     | 192         | 15           | 181         | 16                        | 175         | 17           | 160         | 20           | 139         | 25           | 120         |
| SITE INDEX 70               |      | PRESENT AGE 45   |             |              |             | PRESENT HEIGHT 64.3 FT |             |              |             | HEIGHT IN 5 YEARS 70.0 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac)   | 3500 | 901              | 4401        | 959          | 3741        | 980                    | 3584        | 1006         | 3430        | 1024                      | 3340        | 1071         | 3137        | 1159         | 2866        | 1275         | 2624        |
| BA (ft <sup>2</sup> /ac)    | 117  | 17               | 135         | 21           | 115         | 22                     | 110         | 23           | 105         | 24                        | 103         | 26           | 97          | 30           | 88          | 34           | 81          |
| VOL (ft <sup>3</sup> /ac)   | 4000 | 881              | 4881        | 921          | 4104        | 938                    | 3917        | 959          | 3734        | 974                       | 3626        | 1015         | 3381        | 1095         | 3052        | 1206         | 2755        |
| BA (ft <sup>2</sup> /ac)    | 133  | 15               | 149         | 19           | 126         | 20                     | 120         | 21           | 115         | 22                        | 111         | 24           | 104         | 27           | 94          | 31           | 85          |
| VOL (ft <sup>3</sup> /ac)   | 4500 | 873              | 5373        | 896          | 4479        | 909                    | 4263        | 926          | 4050        | 938                       | 3924        | 972          | 3638        | 1043         | 3250        | 1147         | 2896        |
| BA (ft <sup>2</sup> /ac)    | 150  | 14               | 164         | 17           | 137         | 18                     | 130         | 19           | 124         | 20                        | 120         | 21           | 112         | 25           | 100         | 29           | 89          |
| VOL (ft <sup>3</sup> /ac)   | 5000 | 875              | 5875        | 881          | 4864        | 890                    | 4618        | 902          | 4376        | 911                       | 4233        | 940          | 3905        | 1001         | 3458        | 1097         | 3045        |
| BA (ft <sup>2</sup> /ac)    | 166  | 12               | 179         | 15           | 149         | 16                     | 141         | 17           | 134         | 18                        | 130         | 20           | 120         | 23           | 106         | 27           | 94          |
| VOL (ft <sup>3</sup> /ac)   | 5500 | 883              | 6383        | 874          | 5257        | 878                    | 4982        | 886          | 4711        | 893                       | 4550        | 915          | 4181        | 967          | 3675        | 1054         | 3203        |
| BA (ft <sup>2</sup> /ac)    | 182  | 11               | 194         | 14           | 160         | 15                     | 152         | 16           | 144         | 16                        | 139         | 18           | 128         | 21           | 113         | 25           | 99          |
| VOL (ft <sup>3</sup> /ac)   | 6000 | 897              | 6897        | 873          | 5656        | 873                    | 5352        | 877          | 5051        | 881                       | 4873        | 897          | 4463        | 940          | 3898        | 1018         | 3367        |
| BA (ft <sup>2</sup> /ac)    | 199  | 10               | 210         | 13           | 172         | 14                     | 163         | 15           | 154         | 15                        | 149         | 17           | 136         | 20           | 119         | 24           | 103         |
| VOL (ft <sup>3</sup> /ac)   | 6500 | 914              | 7414        | 877          | 6060        | 873                    | 5727        | 873          | 5397        | 875                       | 5202        | 885          | 4751        | 919          | 4126        | 988          | 3537        |
| BA (ft <sup>2</sup> /ac)    | 215  | 10               | 225         | 12           | 185         | 13                     | 175         | 14           | 165         | 14                        | 159         | 16           | 145         | 18           | 126         | 22           | 109         |
| VOL (ft <sup>3</sup> /ac)   | 7000 | 936              | 7936        | 885          | 6468        | 878                    | 6106        | 874          | 5748        | 873                       | 5535        | 877          | 5043        | 903          | 4360        | 962          | 3711        |
| BA (ft <sup>2</sup> /ac)    | 232  | 9                | 241         | 11           | 197         | 12                     | 186         | 13           | 175         | 13                        | 169         | 15           | 154         | 17           | 133         | 21           | 114         |
| VOL (ft <sup>3</sup> /ac)   | 7500 | 960              | 8460        | 896          | 6879        | 885                    | 6489        | 878          | 6102        | 875                       | 5871        | 873          | 5339        | 891          | 4598        | 941          | 3890        |
| BA (ft <sup>2</sup> /ac)    | 248  | 8                | 257         | 10           | 209         | 11                     | 197         | 12           | 186         | 12                        | 179         | 14           | 163         | 16           | 141         | 20           | 119         |

TABLE 10 (continued)

|              |      | Percent thinning            |              |             |              |             |              |             |              |             |                |             |              |             |              |             |                   |             |  |  |         |  |
|--------------|------|-----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|--------------|-------------|-------------------|-------------|--|--|---------|--|
|              |      | Stand<br>before<br>thinning | 0            |             | 20           |             | 25           |             | 30           |             | 33             |             | 40           |             | 50           |             | 60                |             |  |  |         |  |
|              |      |                             | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth      | 5-yr<br>y'd |  |  |         |  |
|              |      | SITE INDEX                  | 70           |             | PRESENT AGE  |             |              |             | 50           |             | PRESENT HEIGHT |             |              |             | 70.0 FT      |             | HEIGHT IN 5 YEARS |             |  |  | 75.4 FT |  |
| VOL (ft³/ac) | 4000 | 794                         | 4794         |             | 835          | 4018        | 852          | 3831        | 873          | 3648        | 888            | 3540        | 928          | 3294        | 1006         | 2963        | 1114              | 2662        |  |  |         |  |
| BA (ft²/ac)  | 123  | 13                          | 136          |             | 16           | 114         | 17           | 109         | 18           | 104         | 18             | 101         | 20           | 94          | 23           | 85          | 27                | 76          |  |  |         |  |
| VOL (ft³/ac) | 4500 | 784                         | 5284         |             | 810          | 4393        | 823          | 4177        | 840          | 3964        | 852            | 3838        | 886          | 3552        | 955          | 3162        | 1056              | 2805        |  |  |         |  |
| BA (ft²/ac)  | 138  | 12                          | 150          |             | 14           | 125         | 15           | 119         | 16           | 113         | 17             | 109         | 18           | 101         | 21           | 90          | 25                | 80          |  |  |         |  |
| VOL (ft³/ac) | 5000 | 783                         | 5783         |             | 794          | 4777        | 803          | 4532        | 816          | 4290        | 825            | 4147        | 854          | 3819        | 914          | 3371        | 1008              | 2956        |  |  |         |  |
| BA (ft²/ac)  | 153  | 10                          | 164          |             | 13           | 135         | 14           | 129         | 15           | 122         | 15             | 118         | 17           | 109         | 20           | 96          | 23                | 85          |  |  |         |  |
| VOL (ft³/ac) | 5500 | 788                         | 6288         |             | 785          | 5168        | 791          | 4894        | 799          | 4624        | 806            | 4463        | 829          | 4095        | 881          | 3588        | 966               | 3115        |  |  |         |  |
| BA (ft²/ac)  | 168  | 10                          | 178          |             | 12           | 146         | 13           | 139         | 13           | 131         | 14             | 127         | 16           | 116         | 18           | 102         | 22                | 89          |  |  |         |  |
| VOL (ft³/ac) | 6000 | 798                         | 6798         |             | 782          | 5565        | 784          | 5263        | 789          | 4963        | 794            | 4786        | 811          | 4377        | 854          | 3812        | 931               | 3280        |  |  |         |  |
| BA (ft²/ac)  | 183  | 9                           | 192          |             | 11           | 158         | 12           | 149         | 12           | 141         | 13             | 136         | 14           | 124         | 17           | 108         | 20                | 94          |  |  |         |  |
| VOL (ft³/ac) | 6500 | 813                         | 7313         |             | 784          | 5967        | 782          | 5636        | 784          | 5308        | 786            | 5113        | 798          | 4664        | 833          | 4040        | 901               | 3450        |  |  |         |  |
| BA (ft²/ac)  | 198  | 8                           | 206          |             | 10           | 169         | 11           | 159         | 12           | 150         | 12             | 145         | 13           | 132         | 16           | 115         | 19                | 98          |  |  |         |  |
| VOL (ft³/ac) | 7000 | 830                         | 7830         |             | 790          | 6372        | 785          | 6013        | 782          | 5657        | 783            | 5445        | 789          | 4955        | 817          | 4274        | 876               | 3625        |  |  |         |  |
| BA (ft²/ac)  | 213  | 8                           | 221          |             | 9            | 180         | 10           | 170         | 11           | 160         | 11             | 154         | 12           | 140         | 15           | 121         | 18                | 103         |  |  |         |  |
| VOL (ft³/ac) | 7500 | 850                         | 8350         |             | 798          | 6781        | 790          | 6393        | 785          | 6009        | 783            | 5780        | 784          | 5250        | 804          | 4511        | 855               | 3804        |  |  |         |  |
| BA (ft²/ac)  | 228  | 7                           | 235          |             | 9            | 192         | 9            | 181         | 10           | 170         | 10             | 164         | 12           | 149         | 14           | 128         | 17                | 108         |  |  |         |  |
| VOL (ft³/ac) | 8000 | 873                         | 8873         |             | 809          | 7192        | 798          | 6776        | 789          | 6364        | 786            | 6117        | 782          | 5548        | 795          | 4752        | 838               | 3986        |  |  |         |  |
| BA (ft²/ac)  | 243  | 7                           | 250          |             | 8            | 203         | 9            | 191         | 9            | 180         | 10             | 173         | 11           | 157         | 13           | 135         | 16                | 113         |  |  |         |  |
| VOL (ft³/ac) | 8500 | 897                         | 9397         |             | 822          | 7605        | 808          | 7162        | 797          | 6721        | 791            | 6458        | 783          | 5849        | 788          | 4996        | 823               | 4172        |  |  |         |  |
| BA (ft²/ac)  | 258  | 6                           | 265          |             | 8            | 215         | 8            | 202         | 9            | 190         | 9              | 182         | 10           | 165         | 12           | 142         | 15                | 119         |  |  |         |  |
|              |      | SITE INDEX                  | 70           |             | PRESENT AGE  |             |              |             | 55           |             | PRESENT HEIGHT |             |              |             | 75.4 FT      |             | HEIGHT IN 5 YEARS |             |  |  | 80.5 FT |  |
| VOL (ft³/ac) | 4500 | 666                         | 5166         |             | 685          | 4268        | 696          | 4049        | 709          | 3834        | 719            | 3706        | 748          | 3414        | 808          | 3015        | 897               | 2645        |  |  |         |  |
| BA (ft²/ac)  | 128  | 9                           | 137          |             | 11           | 114         | 12           | 108         | 12           | 102         | 13             | 99          | 14           | 91          | 17           | 81          | 20                | 71          |  |  |         |  |
| VOL (ft³/ac) | 5000 | 666                         | 5666         |             | 673          | 4656        | 680          | 4408        | 690          | 4164        | 697            | 4019        | 721          | 3687        | 772          | 3229        | 853               | 2802        |  |  |         |  |
| BA (ft²/ac)  | 142  | 8                           | 150          |             | 10           | 124         | 11           | 117         | 11           | 111         | 12             | 107         | 13           | 98          | 15           | 86          | 18                | 75          |  |  |         |  |
| VOL (ft³/ac) | 5500 | 673                         | 6173         |             | 667          | 5050        | 670          | 4774        | 677          | 4501        | 682            | 4339        | 701          | 3966        | 744          | 3451        | 817               | 2966        |  |  |         |  |
| BA (ft²/ac)  | 156  | 7                           | 163          |             | 9            | 134         | 10           | 127         | 10           | 120         | 11             | 115         | 12           | 106         | 14           | 92          | 17                | 79          |  |  |         |  |
| VOL (ft³/ac) | 6000 | 683                         | 6683         |             | 665          | 5448        | 666          | 5145        | 669          | 4843        | 673            | 4664        | 686          | 4252        | 722          | 3679        | 787               | 3135        |  |  |         |  |
| BA (ft²/ac)  | 170  | 7                           | 177          |             | 8            | 144         | 9            | 137         | 10           | 129         | 10             | 124         | 11           | 113         | 13           | 98          | 16                | 84          |  |  |         |  |
| VOL (ft³/ac) | 6500 | 697                         | 7197         |             | 668          | 5851        | 666          | 5519        | 666          | 5190        | 667            | 4994        | 676          | 4541        | 704          | 3911        | 761               | 3310        |  |  |         |  |
| BA (ft²/ac)  | 184  | 6                           | 190          |             | 8            | 155         | 8            | 146         | 9            | 138         | 9              | 133         | 10           | 121         | 12           | 104         | 15                | 88          |  |  |         |  |
| VOL (ft³/ac) | 7000 | 713                         | 7713         |             | 674          | 6257        | 669          | 5897        | 666          | 5540        | 665            | 5327        | 669          | 4835        | 691          | 4148        | 740               | 3489        |  |  |         |  |
| BA (ft²/ac)  | 196  | 6                           | 204          |             | 7            | 166         | 8            | 156         | 8            | 147         | 9              | 141         | 10           | 128         | 11           | 110         | 14                | 93          |  |  |         |  |
| VOL (ft³/ac) | 7500 | 732                         | 8232         |             | 682          | 6665        | 674          | 6278        | 669          | 5893        | 666            | 5663        | 666          | 5132        | 681          | 4388        | 722               | 3671        |  |  |         |  |
| BA (ft²/ac)  | 212  | 5                           | 217          |             | 7            | 176         | 7            | 166         | 8            | 156         | 8              | 150         | 9            | 136         | 11           | 117         | 13                | 98          |  |  |         |  |
| VOL (ft³/ac) | 8000 | 752                         | 8752         |             | 693          | 7076        | 682          | 6661        | 674          | 6248        | 670            | 6002        | 665          | 5431        | 673          | 4631        | 708               | 3856        |  |  |         |  |
| BA (ft²/ac)  | 226  | 5                           | 231          |             | 6            | 187         | 7            | 176         | 7            | 165         | 8              | 159         | 8            | 144         | 10           | 123         | 12                | 103         |  |  |         |  |
| VOL (ft³/ac) | 8500 | 774                         | 9274         |             | 706          | 7488        | 692          | 7046        | 681          | 6605        | 676            | 6342        | 667          | 5733        | 669          | 4876        | 696               | 4045        |  |  |         |  |
| BA (ft²/ac)  | 240  | 5                           | 245          |             | 6            | 198         | 6            | 186         | 7            | 175         | 7              | 168         | 8            | 152         | 9            | 129         | 12                | 108         |  |  |         |  |
| VOL (ft³/ac) | 9000 | 797                         | 9797         |             | 720          | 7902        | 704          | 7432        | 690          | 6964        | 683            | 6685        | 670          | 6036        | 666          | 5123        | 687               | 4235        |  |  |         |  |
| BA (ft²/ac)  | 254  | 4                           | 258          |             | 6            | 209         | 6            | 196         | 6            | 184         | 7              | 177         | 7            | 160         | 9            | 136         | 11                | 113         |  |  |         |  |
| VOL (ft³/ac) | 9500 | 821                         | 10321        |             | 735          | 8318        | 717          | 7820        | 700          | 7325        | 692            | 7029        | 676          | 6341        | 665          | 5373        | 679               | 4428        |  |  |         |  |
| BA (ft²/ac)  | 268  | 4                           | 272          |             | 5            | 220         | 6            | 207         | 6            | 194         | 6              | 186         | 7            | 168         | 8            | 142         | 11                | 118         |  |  |         |  |

TABLE 10 (continued)

| Percent thinning            |              |                |              |             |              |                        |              |             |              |                           |              |             |              |             |              |             |      |
|-----------------------------|--------------|----------------|--------------|-------------|--------------|------------------------|--------------|-------------|--------------|---------------------------|--------------|-------------|--------------|-------------|--------------|-------------|------|
| Stand<br>before<br>thinning | 0            |                | 20           |             | 25           |                        | 30           |             | 33           |                           | 40           |             | 50           |             | 60           |             |      |
|                             | 5-yr<br>grth | 5-yr<br>y'd    | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd            | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd               | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |      |
| SITE INDEX 70               |              | PRESENT AGE 60 |              |             |              | PRESENT HEIGHT 80.5 FT |              |             |              | HEIGHT IN 5 YEARS 85.2 FT |              |             |              |             |              |             |      |
| VOL (ft <sup>3</sup> /ac)   | 5000         | 517            | 5517         | 508         | 4490         | 509                    | 4238         | 513         | 3987         | 516                       | 3838         | 528         | 3494         | 559         | 3016         | 613         | 2562 |
| BA (ft <sup>2</sup> /ac)    | 133          | 5              | 138          | 6           | 113          | 6                      | 106          | 7           | 100          | 7                         | 97           | 8           | 88           | 10          | 76           | 12          | 65   |
| VOL (ft <sup>3</sup> /ac)   | 5500         | 528            | 6028         | 509         | 4892         | 508                    | 4611         | 508         | 4333         | 510                       | 4167         | 518         | 3783         | 541         | 3249         | 588         | 2737 |
| BA (ft <sup>2</sup> /ac)    | 146          | 4              | 151          | 6           | 123          | 6                      | 116          | 6           | 109          | 7                         | 105          | 7           | 95           | 9           | 82           | 11          | 69   |
| VOL (ft <sup>3</sup> /ac)   | 6000         | 542            | 6542         | 513         | 5296         | 510                    | 4988         | 508         | 4682         | 508                       | 4499         | 511         | 4077         | 529         | 3486         | 568         | 2917 |
| BA (ft <sup>2</sup> /ac)    | 159          | 4              | 163          | 5           | 133          | 5                      | 125          | 6           | 117          | 6                         | 113          | 7           | 102          | 8           | 88           | 10          | 74   |
| VOL (ft <sup>3</sup> /ac)   | 6500         | 559            | 7059         | 521         | 5704         | 515                    | 5368         | 510         | 5034         | 508                       | 4835         | 508         | 4374         | 519         | 3726         | 552         | 3101 |
| BA (ft <sup>2</sup> /ac)    | 172          | 4              | 176          | 5           | 143          | 5                      | 134          | 5           | 126          | 6                         | 121          | 6           | 110          | 8           | 94           | 9           | 78   |
| VOL (ft <sup>3</sup> /ac)   | 7000         | 577            | 7577         | 530         | 6113         | 522                    | 5750         | 515         | 5389         | 512                       | 5173         | 508         | 4673         | 513         | 3970         | 539         | 3288 |
| BA (ft <sup>2</sup> /ac)    | 185          | 3              | 189          | 4           | 153          | 5                      | 144          | 5           | 135          | 5                         | 130          | 6           | 117          | 7           | 100          | 9           | 83   |
| VOL (ft <sup>3</sup> /ac)   | 7500         | 596            | 8096         | 542         | 6525         | 531                    | 6134         | 522         | 5746         | 517                       | 5514         | 509         | 4975         | 509         | 4217         | 529         | 3478 |
| BA (ft <sup>2</sup> /ac)    | 198          | 3              | 202          | 4           | 163          | 4                      | 153          | 5           | 144          | 5                         | 138          | 5           | 125          | 7           | 106          | 8           | 88   |
| VOL (ft <sup>3</sup> /ac)   | 8000         | 617            | 8617         | 555         | 6937         | 542                    | 6520         | 530         | 6104         | 524                       | 5856         | 513         | 5279         | 508         | 4465         | 521         | 3670 |
| BA (ft <sup>2</sup> /ac)    | 211          | 3              | 215          | 4           | 173          | 4                      | 163          | 4           | 153          | 5                         | 146          | 5           | 132          | 6           | 112          | 8           | 92   |
| VOL (ft <sup>3</sup> /ac)   | 8500         | 639            | 9139         | 569         | 7351         | 554                    | 6907         | 540         | 6464         | 533                       | 6199         | 518         | 5584         | 508         | 4715         | 515         | 3864 |
| BA (ft <sup>2</sup> /ac)    | 224          | 3              | 228          | 3           | 183          | 4                      | 172          | 4           | 161          | 4                         | 155          | 5           | 140          | 6           | 118          | 7           | 97   |
| VOL (ft <sup>3</sup> /ac)   | 9000         | 662            | 9662         | 584         | 7767         | 567                    | 7295         | 551         | 6825         | 542                       | 6544         | 525         | 5891         | 509         | 4967         | 511         | 4060 |
| BA (ft <sup>2</sup> /ac)    | 238          | 3              | 241          | 3           | 194          | 4                      | 182          | 4           | 170          | 4                         | 163          | 4           | 147          | 5           | 124          | 7           | 102  |
| VOL (ft <sup>3</sup> /ac)   | 9500         | 685            | 10185        | 600         | 8183         | 581                    | 7684         | 563         | 7187         | 553                       | 6890         | 533         | 6198         | 512         | 5219         | 509         | 4258 |
| BA (ft <sup>2</sup> /ac)    | 251          | 2              | 253          | 3           | 204          | 3                      | 192          | 4           | 179          | 4                         | 172          | 4           | 155          | 5           | 131          | 6           | 107  |
| VOL (ft <sup>3</sup> /ac)   | 10000        | 709            | 10709        | 616         | 8599         | 595                    | 8074         | 576         | 7550         | 565                       | 7236         | 541         | 6507         | 516         | 5473         | 508         | 4456 |
| BA (ft <sup>2</sup> /ac)    | 264          | 2              | 266          | 3           | 214          | 3                      | 201          | 3           | 188          | 4                         | 181          | 4           | 163          | 5           | 137          | 6           | 112  |

TABLE 10 (continued)

| Percent thinning |                             |              |             |                |             |              |             |                        |             |              |             |                           |             |              |             |              |             |
|------------------|-----------------------------|--------------|-------------|----------------|-------------|--------------|-------------|------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|--------------|-------------|
|                  | Stand<br>before<br>thinning | 0            |             | 20             |             | 25           |             | 30                     |             | 33           |             | 40                        |             | 50           |             | 60           |             |
|                  |                             | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth           | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth              | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
|                  | SITE INDEX                  | 75           |             | PRESENT AGE 20 |             |              |             | PRESENT HEIGHT 33.8 FT |             |              |             | HEIGHT IN 5 YEARS 41.5 FT |             |              |             |              |             |
| VOL (ft³/ac)     | 1000                        | 1282         | 2282        | 1360           | 2143        | 1383         | 2112        | 1408                   | 2082        | 1424         | 2066        | 1463                      | 2029        | 1525         | 1982        | 1594         | 1943        |
| BA (ft²/ac)      | 67                          | 52           | 120         | 59             | 113         | 60           | 111         | 62                     | 110         | 64           | 109         | 66                        | 107         | 71           | 105         | 76           | 103         |
| VOL (ft³/ac)     | 1500                        | 1174         | 2674        | 1232           | 2415        | 1252         | 2355        | 1274                   | 2299        | 1289         | 2266        | 1327                      | 2193        | 1393         | 2100        | 1472         | 2021        |
| BA (ft²/ac)      | 98                          | 41           | 140         | 48             | 127         | 49           | 124         | 52                     | 121         | 53           | 119         | 56                        | 115         | 61           | 111         | 67           | 107         |
| VOL (ft³/ac)     | 2000                        | 1135         | 3135        | 1163           | 2746        | 1177         | 2655        | 1193                   | 2567        | 1204         | 2516        | 1236                      | 2402        | 1295         | 2253        | 1374         | 2123        |
| BA (ft²/ac)      | 130                         | 33           | 163         | 39             | 143         | 41           | 139         | 43                     | 134         | 45           | 132         | 48                        | 126         | 53           | 118         | 60           | 112         |
| VOL (ft³/ac)     | 2500                        | 1141         | 3641        | 1136           | 3119        | 1141         | 2995        | 1150                   | 2874        | 1157         | 2803        | 1178                      | 2644        | 1226         | 2433        | 1298         | 2247        |
| BA (ft²/ac)      | 161                         | 28           | 189         | 33             | 162         | 35           | 156         | 37                     | 150         | 38           | 146         | 42                        | 138         | 47           | 128         | 54           | 118         |
|                  | SITE INDEX                  | 75           |             | PRESENT AGE 25 |             |              |             | PRESENT HEIGHT 41.5 FT |             |              |             | HEIGHT IN 5 YEARS 48.8 FT |             |              |             |              |             |
| VOL (ft³/ac)     | 2000                        | 1166         | 3166        | 1230           | 2813        | 1253         | 2732        | 1279                   | 2653        | 1296         | 2607        | 1340                      | 2506        | 1418         | 2375        | 1513         | 2262        |
| BA (ft²/ac)      | 106                         | 34           | 140         | 40             | 125         | 42           | 121         | 44                     | 118         | 45           | 116         | 48                        | 111         | 53           | 106         | 58           | 101         |
| VOL (ft³/ac)     | 2500                        | 1130         | 3630        | 1168           | 3151        | 1184         | 3038        | 1204                   | 2929        | 1218         | 2865        | 1256                      | 2722        | 1327         | 2534        | 1421         | 2370        |
| BA (ft²/ac)      | 131                         | 29           | 160         | 34             | 139         | 36           | 134         | 38                     | 130         | 39           | 127         | 42                        | 121         | 47           | 113         | 53           | 106         |
| VOL (ft³/ac)     | 3000                        | 1126         | 4126        | 1135           | 3518        | 1145         | 3374        | 1158                   | 3233        | 1168         | 3150        | 1198                      | 2963        | 1258         | 2715        | 1346         | 2495        |
| BA (ft²/ac)      | 156                         | 25           | 181         | 30             | 155         | 31           | 149         | 33                     | 143         | 34           | 139         | 37                        | 131         | 42           | 120         | 48           | 111         |
| VOL (ft³/ac)     | 3500                        | 1143         | 4643        | 1125           | 3908        | 1127         | 3731        | 1133                   | 3558        | 1139         | 3456        | 1159                      | 3225        | 1207         | 2914        | 1286         | 2634        |
| BA (ft²/ac)      | 182                         | 21           | 204         | 26             | 172         | 28           | 164         | 29                     | 157         | 30           | 152         | 33                        | 142         | 38           | 129         | 44           | 117         |
| VOL (ft³/ac)     | 4000                        | 1175         | 5175        | 1130           | 4313        | 1126         | 4104        | 1125                   | 3899        | 1126         | 3778        | 1136                      | 3502        | 1171         | 3128        | 1238         | 2786        |
| BA (ft²/ac)      | 207                         | 19           | 227         | 23             | 189         | 25           | 180         | 26                     | 172         | 27           | 166         | 30                        | 154         | 34           | 138         | 40           | 124         |
|                  | SITE INDEX                  | 75           |             | PRESENT AGE 30 |             |              |             | PRESENT HEIGHT 48.8 FT |             |              |             | HEIGHT IN 5 YEARS 55.8 FT |             |              |             |              |             |
| VOL (ft³/ac)     | 2500                        | 1136         | 3636        | 1203           | 3186        | 1227         | 3081        | 1255                   | 2979        | 1273         | 2920        | 1322                      | 2788        | 1408         | 2615        | 1516         | 2465        |
| BA (ft²/ac)      | 111                         | 28           | 140         | 34             | 123         | 35           | 119         | 37                     | 115         | 38           | 113         | 41                        | 108         | 46           | 101         | 51           | 96          |
| VOL (ft³/ac)     | 3000                        | 1105         | 4105        | 1148           | 3531        | 1166         | 3395        | 1188                   | 3263        | 1203         | 3185        | 1246                      | 3011        | 1324         | 2781        | 1430         | 2579        |
| BA (ft²/ac)      | 133                         | 24           | 158         | 29             | 136         | 31           | 131         | 33                     | 126         | 34           | 123         | 36                        | 116         | 41           | 108         | 47           | 100         |
| VOL (ft³/ac)     | 3500                        | 1097         | 4597        | 1115           | 3898        | 1128         | 3731        | 1144                   | 3568        | 1155         | 3472        | 1190                      | 3255        | 1259         | 2966        | 1358         | 2707        |
| BA (ft²/ac)      | 154                         | 21           | 176         | 26             | 150         | 27           | 144         | 29                     | 137         | 30           | 134         | 33                        | 126         | 37           | 115         | 43           | 105         |
| VOL (ft³/ac)     | 4000                        | 1105         | 5105        | 1100           | 4283        | 1106         | 4085        | 1116                   | 3890        | 1124         | 3776        | 1150                      | 3516        | 1208         | 3165        | 1298         | 2847        |
| BA (ft²/ac)      | 176                         | 19           | 195         | 23             | 164         | 25           | 157         | 26                     | 150         | 27           | 145         | 30                        | 135         | 34           | 122         | 40           | 110         |
| VOL (ft³/ac)     | 4500                        | 1126         | 5626        | 1098           | 4680        | 1098         | 4451        | 1101                   | 4226        | 1106         | 4092        | 1123                      | 3789        | 1169         | 3376        | 1249         | 2998        |
| BA (ft²/ac)      | 198                         | 17           | 215         | 21             | 179         | 22           | 171         | 24                     | 162         | 25           | 157         | 27                        | 146         | 31           | 130         | 37           | 116         |
| VOL (ft³/ac)     | 5000                        | 1155         | 6155        | 1105           | 5088        | 1099         | 4828        | 1097                   | 4571        | 1098         | 4420        | 1107                      | 4072        | 1140         | 3598        | 1209         | 3158        |
| BA (ft²/ac)      | 219                         | 15           | 235         | 19             | 195         | 20           | 185         | 22                     | 175         | 22           | 170         | 25                        | 156         | 29           | 139         | 34           | 122         |
|                  | SITE INDEX                  | 75           |             | PRESENT AGE 35 |             |              |             | PRESENT HEIGHT 55.8 FT |             |              |             | HEIGHT IN 5 YEARS 62.5 FT |             |              |             |              |             |
| VOL (ft³/ac)     | 3000                        | 1087         | 4087        | 1152           | 3535        | 1176         | 3405        | 1204                   | 3278        | 1223         | 3205        | 1273                      | 3039        | 1364         | 2821        | 1482         | 2630        |
| BA (ft²/ac)      | 116                         | 24           | 140         | 28             | 122         | 30           | 117         | 31                     | 113         | 32           | 110         | 35                        | 105         | 39           | 97          | 44           | 91          |
| VOL (ft³/ac)     | 3500                        | 1061         | 4561        | 1105           | 3888        | 1124         | 3727        | 1146                   | 3571        | 1162         | 3479        | 1206                      | 3272        | 1289         | 2996        | 1402         | 2751        |
| BA (ft²/ac)      | 135                         | 21           | 156         | 25             | 133         | 26           | 128         | 28                     | 123         | 29           | 120         | 31                        | 113         | 36           | 103         | 41           | 95          |
| VOL (ft³/ac)     | 4000                        | 1053         | 5053        | 1075           | 4258        | 1088         | 4067        | 1106                   | 3880        | 1118         | 3770        | 1155                      | 3520        | 1228         | 3185        | 1335         | 2883        |
| BA (ft²/ac)      | 154                         | 18           | 173         | 23             | 146         | 24           | 139         | 25                     | 133         | 26           | 129         | 29                        | 121         | 33           | 110         | 38           | 100         |
| VOL (ft³/ac)     | 4500                        | 1058         | 5558        | 1059           | 4642        | 1067         | 4420        | 1079                   | 4203        | 1088         | 4075        | 1117                      | 3782        | 1180         | 3387        | 1278         | 3026        |
| BA (ft²/ac)      | 173                         | 17           | 190         | 20             | 159         | 22           | 151         | 23                     | 144         | 24           | 140         | 26                        | 130         | 30           | 117         | 35           | 104         |

TABLE 10 (continued)

| Percent thinning |                             |              |             |              |             |              |             |                |             |              |             |              |                   |              |             |              |             |
|------------------|-----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|--------------|-------------------|--------------|-------------|--------------|-------------|
|                  | Stand<br>before<br>thinning | 0            |             | 20           |             | 25           |             | 30             |             | 33           |             | 40           |                   | 50           |             | 60           |             |
|                  |                             | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd       | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
| SITE INDEX       |                             | 75           | PRESENT AGE |              |             |              | 35          | PRESENT HEIGHT |             |              |             | 55.8 FT      | HEIGHT IN 5 YEARS |              |             |              | 62.5 FT     |
| VOL (ft³/ac)     | 5000                        | 1072         | 6072        | 1053         | 5036        | 1056         | 4784        | 1062           | 4536        | 1068         | 4390        | 1089         | 4055              | 1142         | 3599        | 1230         | 3179        |
| BA (ft²/ac)      | 191                         | 15           | 207         | 19           | 172         | 20           | 164         | 21             | 155         | 22           | 150         | 24           | 139               | 28           | 124         | 33           | 110         |
| VOL (ft³/ac)     | 5500                        | 1093         | 6593        | 1056         | 5438        | 1053         | 5157        | 1054           | 4879        | 1057         | 4714        | 1071         | 4337              | 1112         | 3819        | 1190         | 3339        |
| BA (ft²/ac)      | 210                         | 14           | 225         | 17           | 186         | 18           | 176         | 19             | 167         | 20           | 161         | 22           | 149               | 26           | 131         | 31           | 115         |
| VOL (ft³/ac)     | 6000                        | 1121         | 7121        | 1065         | 5847        | 1057         | 5536        | 1053           | 5228        | 1053         | 5045        | 1059         | 4625              | 1090         | 4047        | 1157         | 3506        |
| BA (ft²/ac)      | 229                         | 13           | 242         | 16           | 199         | 17           | 189         | 18             | 179         | 18           | 172         | 20           | 158               | 24           | 139         | 29           | 121         |
| SITE INDEX       |                             | 75           | PRESENT AGE |              |             |              | 40          | PRESENT HEIGHT |             |              |             | 62.5 FT      | HEIGHT IN 5 YEARS |              |             |              | 68.9 FT     |
| VOL (ft³/ac)     | 3500                        | 1016         | 4516        | 1075         | 3858        | 1098         | 3701        | 1125           | 3549        | 1143         | 3459        | 1192         | 3258              | 1283         | 2990        | 1404         | 2753        |
| BA (ft²/ac)      | 120                         | 19           | 140         | 23           | 120         | 25           | 115         | 26             | 111         | 27           | 108         | 29           | 102               | 33           | 94          | 38           | 86          |
| VOL (ft³/ac)     | 4000                        | 997          | 4997        | 1037         | 4219        | 1054         | 4033        | 1076           | 3850        | 1091         | 3743        | 1134         | 3500              | 1217         | 3174        | 1332         | 2881        |
| BA (ft²/ac)      | 137                         | 17           | 155         | 21           | 131         | 22           | 125         | 23             | 120         | 24           | 117         | 27           | 109               | 30           | 99          | 35           | 90          |
| VOL (ft³/ac)     | 4500                        | 991          | 5491        | 1012         | 4595        | 1025         | 4378        | 1041           | 4166        | 1054         | 4040        | 1090         | 3755              | 1163         | 3370        | 1271         | 3020        |
| BA (ft²/ac)      | 154                         | 15           | 170         | 19           | 143         | 20           | 136         | 21             | 130         | 22           | 126         | 24           | 117               | 28           | 105         | 33           | 94          |
| VOL (ft³/ac)     | 5000                        | 995          | 5995        | 997          | 4980        | 1005         | 4734        | 1017           | 4492        | 1027         | 4348        | 1056         | 4021              | 1119         | 3577        | 1219         | 3168        |
| BA (ft²/ac)      | 171                         | 14           | 185         | 17           | 154         | 18           | 147         | 19             | 139         | 20           | 135         | 22           | 125               | 26           | 111         | 30           | 99          |
| VOL (ft³/ac)     | 5500                        | 1006         | 6506        | 992          | 5374        | 995          | 5098        | 1002           | 4826        | 1008         | 4665        | 1030         | 4296              | 1084         | 3791        | 1175         | 3323        |
| BA (ft²/ac)      | 188                         | 13           | 201         | 16           | 166         | 17           | 158         | 18             | 150         | 19           | 145         | 21           | 133               | 24           | 118         | 28           | 104         |
| VOL (ft³/ac)     | 6000                        | 1024         | 7024        | 992          | 5775        | 991          | 5470        | 994            | 5168        | 997          | 4989        | 1013         | 4578              | 1056         | 4014        | 1137         | 3486        |
| BA (ft²/ac)      | 205                         | 12           | 217         | 15           | 172         | 16           | 169         | 17             | 160         | 17           | 155         | 19           | 142               | 22           | 125         | 27           | 109         |
| VOL (ft³/ac)     | 6500                        | 1046         | 7546        | 998          | 6181        | 993          | 5847        | 991            | 5515        | 992          | 5319        | 1001         | 4866              | 1035         | 4242        | 1106         | 3654        |
| BA (ft²/ac)      | 221                         | 11           | 233         | 14           | 191         | 14           | 181         | 15             | 171         | 16           | 165         | 18           | 151               | 21           | 132         | 25           | 114         |
| VOL (ft³/ac)     | 7000                        | 1072         | 8072        | 1009         | 6592        | 999          | 6228        | 993            | 5868        | 991          | 5653        | 994          | 5160              | 1018         | 4475        | 1079         | 3828        |
| BA (ft²/ac)      | 238                         | 10           | 249         | 13           | 204         | 13           | 193         | 14             | 182         | 15           | 175         | 17           | 160               | 20           | 139         | 24           | 119         |
| SITE INDEX       |                             | 75           | PRESENT AGE |              |             |              | 45          | PRESENT HEIGHT |             |              |             | 68.9 FT      | HEIGHT IN 5 YEARS |              |             |              | 75.0 FT     |
| VOL (ft³/ac)     | 4000                        | 922          | 4922        | 970          | 4153        | 989          | 3968        | 1013           | 3787        | 1029         | 3681        | 1074         | 3440              | 1160         | 3117        | 1277         | 2826        |
| BA (ft²/ac)      | 124                         | 15           | 140         | 19           | 119         | 20           | 113         | 21             | 108         | 22           | 105         | 24           | 99                | 27           | 89          | 31           | 81          |
| VOL (ft³/ac)     | 4500                        | 911          | 5411        | 941          | 4524        | 956          | 4310        | 975            | 4099        | 988          | 3975        | 1027         | 3693              | 1104         | 3311        | 1215         | 2964        |
| BA (ft²/ac)      | 140                         | 14           | 154         | 17           | 129         | 18           | 123         | 19             | 117         | 20           | 114         | 22           | 106               | 25           | 95          | 29           | 85          |
| VOL (ft³/ac)     | 5000                        | 909          | 5909        | 923          | 4905        | 933          | 4662        | 948            | 4422        | 958          | 4280        | 991          | 3956              | 1058         | 3516        | 1162         | 3110        |
| BA (ft²/ac)      | 155                         | 12           | 168         | 15           | 140         | 16           | 133         | 17             | 126         | 18           | 122         | 20           | 113               | 23           | 101         | 27           | 89          |
| VOL (ft³/ac)     | 5500                        | 914          | 6414        | 912          | 5295        | 919          | 5022        | 929            | 4753        | 937          | 4594        | 963          | 4228              | 1021         | 3729        | 1116         | 3265        |
| BA (ft²/ac)      | 170                         | 11           | 182         | 14           | 151         | 15           | 143         | 16             | 135         | 17           | 131         | 18           | 121               | 21           | 107         | 25           | 94          |
| VOL (ft³/ac)     | 6000                        | 926          | 6926        | 909          | 5692        | 911          | 5390        | 917            | 5091        | 922          | 4914        | 942          | 4508              | 991          | 3949        | 1077         | 3426        |
| BA (ft²/ac)      | 186                         | 10           | 197         | 13           | 162         | 14           | 153         | 15             | 145         | 15           | 140         | 17           | 129               | 20           | 113         | 24           | 98          |
| VOL (ft³/ac)     | 6500                        | 942          | 7442        | 910          | 6093        | 909          | 5762        | 910            | 5435        | 913          | 5240        | 927          | 4793              | 968          | 4175        | 1044         | 3593        |
| BA (ft²/ac)      | 201                         | 10           | 211         | 12           | 173         | 13           | 164         | 14             | 155         | 14           | 149         | 16           | 137               | 19           | 119         | 22           | 103         |
| VOL (ft³/ac)     | 7000                        | 961          | 7961        | 916          | 6499        | 911          | 6139        | 909            | 5783        | 909          | 5571        | 917          | 5083              | 949          | 4406        | 1016         | 3765        |
| BA (ft²/ac)      | 216                         | 9            | 226         | 11           | 185         | 12           | 174         | 13             | 164         | 13           | 158         | 15           | 145               | 17           | 126         | 21           | 108         |
| VOL (ft³/ac)     | 7500                        | 984          | 8484        | 925          | 6908        | 916          | 6520        | 911            | 6135        | 909          | 5906        | 911          | 5377              | 934          | 4641        | 992          | 3941        |
| BA (ft²/ac)      | 231                         | 8            | 240         | 10           | 196         | 11           | 185         | 12             | 174         | 12           | 168         | 14           | 153               | 16           | 132         | 20           | 113         |
| VOL (ft³/ac)     | 8000                        | 1009         | 9009        | 938          | 7321        | 925          | 6904        | 916            | 6490        | 912          | 6244        | 909          | 5674              | 924          | 4881        | 973          | 4121        |
| BA (ft²/ac)      | 247                         | 8            | 255         | 10           | 208         | 10           | 196         | 11             | 184         | 12           | 177         | 13           | 161               | 15           | 139         | 19           | 118         |

TABLE 10 (continued)

| Percent thinning            |              |             |              |             |              |             |              |                |              |             |              |             |                   |             |              |             |         |
|-----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|----------------|--------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|---------|
| Stand<br>before<br>thinning | 0            |             | 20           |             | 25           |             | 30           |                | 33           |             | 40           |             | 50                |             | 60           |             |         |
|                             | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd    | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth      | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |         |
| SITE INDEX                  |              | 75          | PRESENT AGE  |             |              |             | 50           | PRESENT HEIGHT |              |             |              | 75.0 FT     | HEIGHT IN 5 YEARS |             |              |             | 80.8 FT |
| VOL (ft³/ac)                | 4500         | 804         | 5304         | 834         | 4416         | 848         | 4201         | 866            | 3990         | 879         | 3865         | 915         | 3581              | 988         | 3195         | 1093        | 2841    |
| BA (ft²/ac)                 | 128          | 11          | 140          | 14          | 117          | 15          | 111          | 16             | 106          | 16          | 103          | 18          | 95                | 21          | 85           | 24          | 76      |
| VOL (ft³/ac)                | 5000         | 801         | 5801         | 816         | 4799         | 826         | 4555         | 840            | 4314         | 850         | 4172         | 881         | 3846              | 945         | 3402         | 1042        | 2991    |
| BA (ft²/ac)                 | 142          | 10          | 153          | 13          | 127          | 13          | 121          | 14             | 114          | 15          | 111          | 16          | 102               | 19          | 91           | 23          | 80      |
| VOL (ft³/ac)                | 5500         | 805         | 6305         | 805         | 5188         | 812         | 4916         | 822            | 4646         | 830         | 4486         | 854         | 4120              | 910         | 3617         | 999         | 3148    |
| BA (ft²/ac)                 | 156          | 9           | 166          | 12          | 137          | 12          | 130          | 13             | 123          | 14          | 119          | 15          | 109               | 18          | 96           | 21          | 84      |
| VOL (ft³/ac)                | 6000         | 814         | 6814         | 801         | 5584         | 804         | 5283         | 810            | 4984         | 815         | 4807         | 834         | 4400              | 881         | 3839         | 962         | 3311    |
| BA (ft²/ac)                 | 171          | 9           | 180          | 11          | 147          | 11          | 140          | 12             | 132          | 13          | 127          | 14          | 117               | 16          | 102          | 20          | 88      |
| VOL (ft³/ac)                | 6500         | 827         | 7327         | 802         | 5984         | 801         | 5654         | 803            | 5328         | 807         | 5133         | 820         | 4686              | 859         | 4066         | 931         | 3480    |
| BA (ft²/ac)                 | 185          | 8           | 193          | 10          | 158          | 11          | 149          | 11             | 141          | 12          | 136          | 13          | 124               | 15          | 108          | 19          | 93      |
| VOL (ft³/ac)                | 7000         | 844         | 7844         | 806         | 6389         | 802         | 6030         | 801            | 5675         | 802         | 5464         | 810         | 4976              | 841         | 4298         | 905         | 3653    |
| BA (ft²/ac)                 | 199          | 7           | 206          | 9           | 168          | 10          | 159          | 10             | 150          | 11          | 144          | 12          | 132               | 14          | 114          | 17          | 97      |
| VOL (ft³/ac)                | 7500         | 863         | 8363         | 813         | 6796         | 806         | 6410         | 802            | 6026         | 801         | 5798         | 804         | 5270              | 827         | 4535         | 882         | 3831    |
| BA (ft²/ac)                 | 213          | 7           | 220          | 9           | 179          | 9           | 169          | 10             | 159          | 10          | 153          | 11          | 139               | 13          | 120          | 16          | 102     |
| VOL (ft³/ac)                | 8000         | 884         | 8884         | 824         | 7206         | 813         | 6792         | 806            | 6380         | 803         | 6134         | 801         | 5567              | 817         | 4774         | 864         | 4012    |
| BA (ft²/ac)                 | 227          | 6           | 234          | 8           | 190          | 9           | 179          | 9              | 168          | 10          | 162          | 11          | 147               | 13          | 126          | 16          | 106     |
| VOL (ft³/ac)                | 8500         | 908         | 9408         | 836         | 7619         | 823         | 7176         | 812            | 6736         | 807         | 6474         | 801         | 5867              | 809         | 5016         | 848         | 4197    |
| BA (ft²/ac)                 | 241          | 6           | 247          | 8           | 201          | 8           | 189          | 9              | 178          | 9           | 171          | 10          | 155               | 12          | 133          | 15          | 111     |
| VOL (ft³/ac)                | 9000         | 933         | 9933         | 850         | 8033         | 834         | 7563         | 821            | 7095         | 814         | 6816         | 803         | 6169              | 804         | 5261         | 835         | 4384    |
| BA (ft²/ac)                 | 255          | 6           | 261          | 7           | 211          | 8           | 199          | 8              | 187          | 9           | 180          | 10          | 163               | 11          | 139          | 14          | 116     |
| SITE INDEX                  |              | 75          | PRESENT AGE  |             |              |             | 55           | PRESENT HEIGHT |              |             |              | 80.8 FT     | HEIGHT IN 5 YEARS |             |              |             | 86.2 FT |
| VOL (ft³/ac)                | 5000         | 660         | 5660         | 665         | 4648         | 671         | 4400         | 681            | 4155         | 688         | 4010         | 711         | 3677              | 761         | 3218         | 840         | 2789    |
| BA (ft²/ac)                 | 132          | 7           | 140          | 9           | 115          | 10          | 109          | 10             | 103          | 11          | 100          | 12          | 91                | 14          | 80           | 17          | 70      |
| VOL (ft³/ac)                | 5500         | 667         | 6167         | 659         | 5042         | 663         | 4766         | 669            | 4493         | 674         | 4331         | 691         | 3957              | 733         | 3440         | 805         | 2953    |
| BA (ft²/ac)                 | 145          | 7           | 152          | 8           | 125          | 9           | 118          | 9              | 111          | 10          | 107          | 11          | 98                | 13          | 86           | 16          | 74      |
| VOL (ft³/ac)                | 6000         | 677         | 6677         | 659         | 5441         | 659         | 5137         | 662            | 4836         | 665         | 4656         | 677         | 4243              | 712         | 3669         | 775         | 3124    |
| BA (ft²/ac)                 | 158          | 6           | 165          | 8           | 135          | 8           | 127          | 9              | 120          | 9           | 115          | 10          | 105               | 12          | 91           | 14          | 78      |
| VOL (ft³/ac)                | 6500         | 691         | 7191         | 662         | 5845         | 659         | 5513         | 659            | 5183         | 660         | 4987         | 668         | 4533              | 695         | 3902         | 750         | 3299    |
| BA (ft²/ac)                 | 171          | 6           | 177          | 7           | 145          | 7           | 136          | 8              | 128          | 8           | 124          | 9           | 112               | 11          | 97           | 14          | 82      |
| VOL (ft³/ac)                | 7000         | 708         | 7708         | 668         | 6251         | 662         | 5891         | 659            | 5533         | 658         | 5320         | 662         | 4827              | 682         | 4139         | 729         | 3478    |
| BA (ft²/ac)                 | 184          | 5           | 190          | 7           | 154          | 7           | 146          | 7              | 137          | 8           | 132          | 9           | 120               | 10          | 103          | 13          | 87      |
| VOL (ft³/ac)                | 7500         | 727         | 8227         | 677         | 6660         | 668         | 6272         | 662            | 5887         | 660         | 5657         | 659         | 5125              | 672         | 4379         | 712         | 3661    |
| BA (ft²/ac)                 | 197          | 5           | 203          | 6           | 164          | 6           | 155          | 7              | 146          | 7           | 140          | 8           | 127               | 10          | 109          | 12          | 91      |
| VOL (ft³/ac)                | 8000         | 748         | 8748         | 688         | 7071         | 677         | 6655         | 668            | 6242         | 664         | 5996         | 659         | 5424              | 665         | 4623         | 698         | 3847    |
| BA (ft²/ac)                 | 211          | 4           | 215          | 6           | 174          | 6           | 164          | 7              | 154          | 7           | 148          | 8           | 134               | 9           | 115          | 11          | 96      |
| VOL (ft³/ac)                | 8500         | 770         | 9270         | 701         | 7483         | 687         | 7041         | 675            | 6600         | 670         | 6336         | 661         | 5726              | 661         | 4868         | 687         | 4035    |
| BA (ft²/ac)                 | 224          | 4           | 228          | 5           | 185          | 6           | 174          | 6              | 163          | 6           | 157          | 7           | 142               | 9           | 121          | 11          | 100     |
| VOL (ft³/ac)                | 9000         | 793         | 9793         | 715         | 7898         | 699         | 7427         | 685            | 6959         | 677         | 6679         | 664         | 6030              | 659         | 5116         | 678         | 4226    |
| BA (ft²/ac)                 | 237          | 4           | 241          | 5           | 195          | 5           | 183          | 6              | 172          | 6           | 165          | 7           | 149               | 8           | 127          | 10          | 105     |
| VOL (ft³/ac)                | 9500         | 817         | 10317        | 730         | 8313         | 712         | 7815         | 695            | 7320         | 686         | 7023         | 670         | 6335              | 658         | 5366         | 671         | 4419    |
| BA (ft²/ac)                 | 250          | 4           | 254          | 5           | 205          | 5           | 193          | 5              | 181          | 6           | 173          | 6           | 157               | 8           | 133          | 10          | 110     |
| VOL (ft³/ac)                | 10000        | 843         | 10843        | 747         | 8730         | 726         | 8205         | 707            | 7681         | 697         | 7369         | 676         | 6642              | 660         | 5617         | 666         | 4614    |
| BA (ft²/ac)                 | 263          | 4           | 267          | 4           | 215          | 5           | 202          | 5              | 189          | 5           | 182          | 6           | 164               | 7           | 139          | 9           | 114     |

TABLE 10 (continued)

|                                | Stand<br>before<br>thinning | Percent thinning |             |              |             |              |             |                |             |              |             |                   |             |              |             |              |             |
|--------------------------------|-----------------------------|------------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------------|-------------|
|                                |                             | 0                |             | 20           |             | 25           |             | 30             |             | 33           |             | 40                |             | 50           |             | 60           |             |
|                                |                             | 5-yr<br>grth     | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth      | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
|                                | SITE INDEX                  | 75               |             | PRESENT AGE  |             | 60           |             | PRESENT HEIGHT |             | 86.2 FT      |             | HEIGHT IN 5 YEARS |             | 91.3 FT      |             |              |             |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>5500</b>                 | 490              | 5990        | 462          | 4845        | 458          | 4562        | 456            | 4280        | 455          | 4112        | 457               | 3723        | 472          | 3179        | 505          | 2654        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>136</b>                  | 3                | 140         | 4            | 113         | 4            | 107         | 5              | 100         | 5            | 96          | 5                 | 87          | 7            | 75          | 8            | 63          |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>6000</b>                 | 507              | 6507        | 470          | 5253        | 464          | 4942        | 459            | 4633        | 457          | 4449        | 455               | 4021        | 463          | 3421        | 490          | 2839        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>148</b>                  | 3                | 152         | 4            | 123         | 4            | 116         | 4              | 108         | 4            | 104         | 5                 | 94          | 6            | 80          | 7            | 67          |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>6500</b>                 | 526              | 7026        | 481          | 5664        | 472          | 5326        | 465            | 4989        | 461          | 4788        | 456               | 4322        | 458          | 3665        | 479          | 3027        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>161</b>                  | 3                | 164         | 3            | 132         | 4            | 124         | 4              | 117         | 4            | 112         | 5                 | 101         | 6            | 86          | 7            | 71          |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>7000</b>                 | 547              | 7547        | 493          | 6076        | 482          | 5711        | 473            | 5347        | 468          | 5129        | 459               | 4625        | 456          | 3913        | 470          | 3219        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>173</b>                  | 2                | 176         | 3            | 142         | 3            | 133         | 4              | 125         | 4            | 120         | 4                 | 108         | 5            | 92          | 6            | 76          |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>7500</b>                 | 568              | 8068        | 507          | 6490        | 494          | 6097        | 482            | 5706        | 476          | 5472        | 464               | 4929        | 455          | 4163        | 464          | 3412        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>185</b>                  | 2                | 188         | 3            | 151         | 3            | 142         | 3              | 133         | 4            | 128         | 4                 | 115         | 5            | 98          | 6            | 80          |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>8000</b>                 | 591              | 8591        | 522          | 6904        | 507          | 6485        | 493            | 6067        | 485          | 5817        | 470               | 5236        | 457          | 4414        | 459          | 3608        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>197</b>                  | 2                | 200         | 3            | 161         | 3            | 151         | 3              | 141         | 3            | 136         | 4                 | 122         | 5            | 103         | 6            | 85          |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>8500</b>                 | 614              | 9114        | 538          | 7320        | 520          | 6874        | 505            | 6429        | 496          | 6162        | 478               | 5543        | 459          | 4667        | 457          | 3805        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>209</b>                  | 2                | 212         | 2            | 170         | 3            | 160         | 3              | 150         | 3            | 144         | 3                 | 129         | 4            | 109         | 5            | 89          |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>9000</b>                 | 638              | 9638        | 554          | 7737        | 535          | 7264        | 517            | 6792        | 507          | 6509        | 486               | 5852        | 463          | 4921        | 455          | 4004        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>222</b>                  | 2                | 224         | 2            | 180         | 3            | 169         | 3              | 158         | 3            | 152         | 3                 | 137         | 4            | 115         | 5            | 94          |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>9500</b>                 | 663              | 10163       | 572          | 8155        | 551          | 7654        | 531            | 7155        | 520          | 6857        | 496               | 6161        | 469          | 5176        | 455          | 4204        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>234</b>                  | 2                | 236         | 2            | 190         | 2            | 178         | 3              | 167         | 3            | 160         | 3                 | 144         | 4            | 121         | 5            | 99          |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>10000</b>                | 688              | 10688       | 590          | 8573        | 567          | 8046        | 545            | 7520        | 533          | 7205        | 506               | 6472        | 475          | 5432        | 457          | 4405        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>246</b>                  | 2                | 248         | 2            | 199         | 2            | 187         | 2              | 175         | 3            | 168         | 3                 | 151         | 4            | 127         | 5            | 103         |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>10500</b>                | 713              | 11213       | 608          | 8991        | 584          | 8437        | 560            | 7885        | 547          | 7554        | 517               | 6783        | 481          | 5689        | 459          | 4607        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>258</b>                  | 1                | 260         | 2            | 209         | 2            | 196         | 2              | 183         | 2            | 176         | 3                 | 158         | 3            | 133         | 4            | 108         |
| <b>VOL (ft<sup>3</sup>/ac)</b> | <b>11000</b>                | 739              | 11739       | 627          | 9410        | 601          | 8830        | 576            | 8250        | 561          | 7903        | 529               | 7094        | 489          | 5946        | 462          | 4810        |
| <b>BA (ft<sup>2</sup>/ac)</b>  | <b>271</b>                  | 1                | 272         | 2            | 219         | 2            | 205         | 2              | 192         | 2            | 184         | 3                 | 165         | 3            | 139         | 4            | 112         |

TABLE 10 (continued)

| Percent thinning |                             |              |              |              |              |              |              |              |              |                |              |              |              |              |              |                   |              |  |  |         |  |
|------------------|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|--------------|--------------|--------------|--------------|-------------------|--------------|--|--|---------|--|
|                  | Stand<br>before<br>thinning | 0            |              | 20           |              | 25           |              | 30           |              | 33             |              | 40           |              | 50           |              | 60                |              |  |  |         |  |
|                  |                             | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth   | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth | 5-yr<br>y'ld | 5-yr<br>grth      | 5-yr<br>y'ld |  |  |         |  |
| SITE INDEX       |                             | 80           |              | PRESENT AGE  |              |              |              | 20           |              | PRESENT HEIGHT |              |              |              | 36.1 FT      |              | HEIGHT IN 5 YEARS |              |  |  | 44.2 FT |  |
| VOL (ft³/ac)     | 1500                        | 1263         | 2763         | 1331         | 2513         | 1353         | 2456         | 1378         | 2402         | 1394           | 2370         | 1435         | 2301         | 1505         | 2212         | 1588              | 2137         |  |  |         |  |
| BA (ft²/ac)      | 92                          | 43           | 135          | 49           | 123          | 51           | 121          | 53           | 118          | 54             | 117          | 58           | 113          | 63           | 109          | 68                | 105          |  |  |         |  |
| VOL (ft³/ac)     | 2000                        | 1213         | 3213         | 1251         | 2834         | 1267         | 2746         | 1286         | 2660         | 1299           | 2611         | 1335         | 2501         | 1401         | 2358         | 1486              | 2234         |  |  |         |  |
| BA (ft²/ac)      | 121                         | 35           | 157          | 41           | 139          | 43           | 134          | 45           | 130          | 46             | 128          | 50           | 123          | 55           | 116          | 61                | 110          |  |  |         |  |
| VOL (ft³/ac)     | 2500                        | 1208         | 3708         | 1213         | 3196         | 1222         | 3075         | 1234         | 2958         | 1242           | 2889         | 1269         | 2735         | 1324         | 2531         | 1404              | 2352         |  |  |         |  |
| BA (ft²/ac)      | 151                         | 29           | 180          | 35           | 156          | 37           | 150          | 39           | 145          | 40             | 141          | 43           | 134          | 49           | 124          | 55                | 116          |  |  |         |  |
| VOL (ft³/ac)     | 3000                        | 1234         | 4234         | 1206         | 3589         | 1206         | 3434         | 1209         | 3284         | 1213           | 3195         | 1229         | 2995         | 1271         | 2728         | 1340              | 2489         |  |  |         |  |
| BA (ft²/ac)      | 180                         | 25           | 205          | 30           | 175          | 32           | 167          | 34           | 160          | 35             | 156          | 38           | 146          | 43           | 134          | 50                | 122          |  |  |         |  |
| SITE INDEX       |                             | 80           |              | PRESENT AGE  |              |              |              | 25           |              | PRESENT HEIGHT |              |              |              | 44.2 FT      |              | HEIGHT IN 5 YEARS |              |  |  | 52.1 FT |  |
| VOL (ft³/ac)     | 2000                        | 1253         | 3253         | 1328         | 2911         | 1353         | 2832         | 1382         | 2756         | 1400           | 2712         | 1449         | 2615         | 1532         | 2489         | 1633              | 2382         |  |  |         |  |
| BA (ft²/ac)      | 99                          | 35           | 135          | 41           | 121          | 43           | 118          | 45           | 115          | 46             | 113          | 49           | 109          | 54           | 104          | 60                | 99           |  |  |         |  |
| VOL (ft³/ac)     | 2500                        | 1207         | 3707         | 1256         | 3239         | 1275         | 3129         | 1298         | 3023         | 1314           | 2961         | 1357         | 2822         | 1435         | 2642         | 1536              | 2484         |  |  |         |  |
| BA (ft²/ac)      | 123                         | 30           | 153          | 36           | 134          | 37           | 130          | 39           | 125          | 40             | 123          | 43           | 117          | 48           | 110          | 54                | 104          |  |  |         |  |
| VOL (ft³/ac)     | 3000                        | 1194         | 4194         | 1214         | 3597         | 1227         | 3456         | 1244         | 3318         | 1256           | 3238         | 1290         | 3056         | 1359         | 2816         | 1455              | 2604         |  |  |         |  |
| BA (ft²/ac)      | 147                         | 26           | 173          | 31           | 149          | 33           | 143          | 34           | 137          | 36             | 134          | 38           | 127          | 43           | 117          | 50                | 108          |  |  |         |  |
| VOL (ft³/ac)     | 3500                        | 1203         | 4703         | 1196         | 3979         | 1202         | 3806         | 1212         | 3636         | 1220           | 3536         | 1245         | 3311         | 1302         | 3009         | 1389              | 2738         |  |  |         |  |
| BA (ft²/ac)      | 170                         | 23           | 193          | 27           | 164          | 29           | 157          | 31           | 150          | 32             | 146          | 34           | 137          | 39           | 125          | 45                | 114          |  |  |         |  |
| VOL (ft³/ac)     | 4000                        | 1229         | 5229         | 1195         | 4378         | 1194         | 4172         | 1196         | 3971         | 1200           | 3852         | 1216         | 3581         | 1259         | 3216         | 1336              | 2885         |  |  |         |  |
| BA (ft²/ac)      | 194                         | 20           | 215          | 24           | 180          | 26           | 172          | 27           | 164          | 28             | 159          | 31           | 148          | 36           | 133          | 42                | 120          |  |  |         |  |
| SITE INDEX       |                             | 80           |              | PRESENT AGE  |              |              |              | 30           |              | PRESENT HEIGHT |              |              |              | 52.1 FT      |              | HEIGHT IN 5 YEARS |              |  |  | 59.5 FT |  |
| VOL (ft³/ac)     | 2500                        | 1217         | 3717         | 1295         | 3278         | 1322         | 3176         | 1353         | 3077         | 1373           | 3020         | 1426         | 2892         | 1518         | 2726         | 1633              | 2582         |  |  |         |  |
| BA (ft²/ac)      | 104                         | 29           | 134          | 35           | 119          | 36           | 115          | 38           | 111          | 39             | 1099         | 42           | 105          | 47           | 99           | 52                | 94           |  |  |         |  |
| VOL (ft³/ac)     | 3000                        | 1177         | 4177         | 1231         | 3614         | 1253         | 3481         | 1278         | 3352         | 1295           | 3277         | 1343         | 3108         | 1429         | 2886         | 1542              | 2691         |  |  |         |  |
| BA (ft²/ac)      | 124                         | 25           | 150          | 31           | 130          | 32           | 126          | 34           | 121          | 35             | 119          | 38           | 113          | 42           | 105          | 48                | 98           |  |  |         |  |
| VOL (ft³/ac)     | 3500                        | 1162         | 4662         | 1191         | 3974         | 1207         | 3810         | 1226         | 3651         | 1240           | 3557         | 1280         | 3345         | 1357         | 3064         | 1465              | 2814         |  |  |         |  |
| BA (ft²/ac)      | 145                         | 22           | 168          | 27           | 143          | 29           | 137          | 30           | 132          | 31             | 128          | 34           | 121          | 38           | 111          | 44                | 102          |  |  |         |  |
| VOL (ft³/ac)     | 4000                        | 1164         | 5164         | 1169         | 4352         | 1179         | 4157         | 1192         | 3966         | 1202           | 3854         | 1234         | 3599         | 1300         | 3257         | 1401              | 2949         |  |  |         |  |
| BA (ft²/ac)      | 165                         | 20           | 185          | 24           | 157          | 26           | 150          | 27           | 143          | 28             | 139          | 31           | 130          | 35           | 118          | 41                | 107          |  |  |         |  |
| VOL (ft³/ac)     | 4500                        | 1179         | 5679         | 1161         | 4744         | 1164         | 4518         | 1172         | 4296         | 1178           | 4165         | 1201         | 3867         | 1256         | 3463         | 1347              | 3095         |  |  |         |  |
| BA (ft²/ac)      | 185                         | 18           | 204          | 22           | 170          | 23           | 162          | 25           | 155          | 26             | 150          | 28           | 139          | 32           | 125          | 38                | 112          |  |  |         |  |
| VOL (ft³/ac)     | 5000                        | 1204         | 6204         | 1164         | 5146         | 1161         | 4889         | 1162         | 4636         | 1165           | 4487         | 1179         | 4145         | 1222         | 3680         | 1302              | 3251         |  |  |         |  |
| BA (ft²/ac)      | 205                         | 16           | 222          | 20           | 185          | 21           | 176          | 23           | 167          | 23             | 161          | 26           | 149          | 30           | 133          | 35                | 118          |  |  |         |  |
| VOL (ft³/ac)     | 5500                        | 1236         | 6736         | 1174         | 5557         | 1166         | 5270         | 1161         | 4986         | 1161           | 4818         | 1167         | 4432         | 1197         | 3905         | 1265              | 3414         |  |  |         |  |
| BA (ft²/ac)      | 226                         | 15           | 241          | 18           | 199          | 19           | 189          | 21           | 179          | 22             | 173          | 24           | 159          | 28           | 141          | 33                | 123          |  |  |         |  |

TABLE 10 (continued)

|              |                             | Percent thinning |             |              |             |              |             |                |             |              |             |                   |             |              |             |              |             |
|--------------|-----------------------------|------------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------------|-------------|
|              | Stand<br>before<br>thinning | 0                |             | 20           |             | 25           |             | 30             |             | 33           |             | 40                |             | 50           |             | 60           |             |
|              |                             | 5-yr<br>grth     | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth      | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
|              | SITE INDEX                  | 80               |             | PRESENT AGE  |             | 35           |             | PRESENT HEIGHT |             | 59.5 FT      |             | HEIGHT IN 5 YEARS |             | 66.7 FT      |             |              |             |
| VOL (ft³/ac) | 3000                        | 1158             | 4158        | 1234         | 3617        | 1261         | 3489        | 1292           | 3366        | 1312         | 3294        | 1368              | 3133        | 1465         | 2922        | 1589         | 2738        |
| BA (ft²/ac)  | 109                         | 24               | 134         | 29           | 116         | 31           | 112         | 32             | 109         | 33           | 106         | 36                | 101         | 40           | 95          | 45           | 89          |
| VOL (ft³/ac) | 3500                        | 1125             | 4625        | 1179         | 3962        | 1201         | 3805        | 1227           | 3651        | 1245         | 3562        | 1294              | 3359        | 1384         | 3091        | 1506         | 2854        |
| BA (ft²/ac)  | 126                         | 21               | 148         | 26           | 127         | 27           | 122         | 29             | 118         | 30           | 115         | 32                | 108         | 36           | 100         | 42           | 92          |
| VOL (ft³/ac) | 4000                        | 1111             | 5111        | 1143         | 4326        | 1160         | 4138        | 1180           | 3955        | 1195         | 3847        | 1236              | 3602        | 1318         | 3275        | 1434         | 2982        |
| BA (ft²/ac)  | 144                         | 19               | 164         | 23           | 139         | 25           | 133         | 26             | 127         | 27           | 124         | 29                | 116         | 33           | 106         | 39           | 96          |
| VOL (ft³/ac) | 4500                        | 1110             | 5610        | 1122         | 4705        | 1133         | 4486        | 1148           | 4272        | 1159         | 4146        | 1193              | 3859        | 1265         | 3472        | 1372         | 3121        |
| BA (ft²/ac)  | 162                         | 17               | 179         | 21           | 151         | 22           | 144         | 24             | 137         | 24           | 133         | 27                | 124         | 31           | 112         | 36           | 101         |
| VOL (ft³/ac) | 5000                        | 1120             | 6120        | 1111         | 5094        | 1117         | 4845        | 1126           | 4601        | 1134         | 4456        | 1161              | 4127        | 1222         | 3679        | 1320         | 3269        |
| BA (ft²/ac)  | 179                         | 16               | 196         | 19           | 163         | 20           | 155         | 22             | 148         | 22           | 143         | 25                | 133         | 28           | 118         | 34           | 106         |
| VOL (ft³/ac) | 5500                        | 1138             | 6638        | 1109         | 5492        | 1110         | 5213        | 1114           | 4938        | 1119         | 4776        | 1138              | 4404        | 1188         | 3895        | 1276         | 3425        |
| BA (ft²/ac)  | 197                         | 14               | 212         | 18           | 176         | 19           | 167         | 20             | 158         | 21           | 153         | 23                | 141         | 26           | 125         | 31           | 110         |
| VOL (ft³/ac) | 6000                        | 1162             | 7162        | 1115         | 5898        | 1110         | 5589        | 1109           | 5284        | 1111         | 5103        | 1122              | 4688        | 1162         | 4119        | 1239         | 3588        |
| BA (ft²/ac)  | 215                         | 13               | 229         | 16           | 189         | 17           | 179         | 18             | 169         | 19           | 163         | 21                | 150         | 25           | 132         | 29           | 116         |
| VOL (ft³/ac) | 6500                        | 1191             | 7691        | 1126         | 6309        | 1116         | 5970        | 1111           | 5635        | 1109         | 5436        | 1113              | 4979        | 1142         | 4349        | 1209         | 3757        |
| BA (ft²/ac)  | 233                         | 12               | 245         | 15           | 202         | 16           | 191         | 17             | 180         | 18           | 174         | 20                | 160         | 23           | 140         | 28           | 121         |
|              | SITE INDEX                  | 80               |             | PRESENT AGE  |             | 40           |             | PRESENT HEIGHT |             | 66.7 FT      |             | HEIGHT IN 5 YEARS |             | 73.5 FT      |             |              |             |
| VOL (ft³/ac) | 4000                        | 1048             | 5048        | 1097         | 4280        | 1117         | 4096        | 1142           | 3916        | 1159         | 3811        | 1206              | 3572        | 1296         | 3253        | 1419         | 2968        |
| BA (ft²/ac)  | 129                         | 18               | 147         | 21           | 125         | 23           | 119         | 24             | 114         | 25           | 111         | 27                | 104         | 31           | 95          | 35           | 87          |
| VOL (ft³/ac) | 4500                        | 1038             | 5538        | 1067         | 4650        | 1083         | 4436        | 1102           | 4227        | 1116         | 4103        | 1157              | 3823        | 1238         | 3445        | 1354         | 3103        |
| BA (ft²/ac)  | 144                         | 16               | 161         | 19           | 135         | 20           | 129         | 22             | 123         | 23           | 120         | 25                | 112         | 28           | 101         | 33           | 91          |
| VOL (ft³/ac) | 5000                        | 1038             | 6038        | 1049         | 5032        | 1059         | 4788        | 1074           | 4548        | 1085         | 4407        | 1119              | 4084        | 1190         | 3647        | 1298         | 3247        |
| BA (ft²/ac)  | 160                         | 14               | 175         | 18           | 146         | 19           | 139         | 20             | 132         | 21           | 128         | 23                | 119         | 26           | 107         | 31           | 95          |
| VOL (ft³/ac) | 5500                        | 1046             | 6546        | 1039         | 5422        | 1045         | 5149        | 1055           | 4879        | 1063         | 4720        | 1090              | 4355        | 1151         | 3858        | 1250         | 3399        |
| BA (ft²/ac)  | 176                         | 13               | 190         | 16           | 157         | 17           | 150         | 18             | 142         | 19           | 137         | 21                | 127         | 24           | 113         | 29           | 99          |
| VOL (ft³/ac) | 6000                        | 1061             | 7061        | 1037         | 5820        | 1038         | 5517        | 1043           | 5217        | 1048         | 5040        | 1068              | 4634        | 1120         | 4077        | 1210         | 3558        |
| BA (ft²/ac)  | 192                         | 12               | 204         | 15           | 169         | 16           | 160         | 17             | 152         | 18           | 146         | 19                | 135         | 23           | 119         | 27           | 104         |
| VOL (ft³/ac) | 6500                        | 1080             | 7580        | 1040         | 6223        | 1037         | 5890        | 1038           | 5562        | 1040         | 5367        | 1053              | 4919        | 1095         | 4302        | 1175         | 3723        |
| BA (ft²/ac)  | 208                         | 11               | 219         | 14           | 180         | 15           | 171         | 16             | 161         | 16           | 156         | 18                | 143         | 21           | 125         | 25           | 109         |
| VOL (ft³/ac) | 7000                        | 1104             | 8104        | 1048         | 6631        | 1041         | 6269        | 1037           | 5911        | 1037         | 5699        | 1043              | 5209        | 1075         | 4532        | 1145         | 3894        |
| BA (ft²/ac)  | 223                         | 10               | 234         | 13           | 192         | 14           | 182         | 15             | 171         | 15           | 165         | 17                | 151         | 20           | 132         | 24           | 114         |
| VOL (ft³/ac) | 7500                        | 1131             | 8631        | 1060         | 7043        | 1049         | 6652        | 1041           | 6265        | 1038         | 6035        | 1038              | 5504        | 1060         | 4768        | 1121         | 4069        |
| BA (ft²/ac)  | 239                         | 10               | 249         | 12           | 204         | 13           | 193         | 14             | 182         | 14           | 175         | 16                | 160         | 19           | 139         | 23           | 119         |
| VOL (ft³/ac) | 8000                        | 1161             | 9161        | 1075         | 7458        | 1060         | 7038        | 1048           | 6622        | 1042         | 6374        | 1037              | 5802        | 1050         | 5007        | 1100         | 4249        |
| BA (ft²/ac)  | 255                         | 9                | 265         | 11           | 216         | 12           | 204         | 13             | 192         | 14           | 185         | 15                | 168         | 18           | 145         | 22           | 124         |

TABLE 10 (continued)

|                           | Stand<br>before<br>thinning | Percent thinning |             |              |             |              |             |                |             |              |             |                   |             |              |             |              |             |
|---------------------------|-----------------------------|------------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------------|-------------|
|                           |                             | 0                |             | 20           |             | 25           |             | 30             |             | 33           |             | 40                |             | 50           |             | 60           |             |
|                           |                             | 5-yr<br>grth     | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth   | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth      | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |
|                           | SITE INDEX                  | 80               |             | PRESENT AGE  | 45          |              |             | PRESENT HEIGHT | 73.5 FT     |              |             | HEIGHT IN 5 YEARS | 80.0 FT     |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 4500                        | 944              | 5444        | 981          | 4564        | 998          | 4352        | 1019           | 4143        | 1034         | 4021        | 1076              | 3742        | 1158         | 3366        | 1275         | 3024        |
| BA (ft <sup>2</sup> /ac)  | 131                         | 14               | 145         | 17           | 122         | 18           | 116         | 19             | 111         | 20           | 108         | 21                | 100         | 25           | 90          | 29           | 81          |
| VOL (ft <sup>3</sup> /ac) | 5000                        | 940              | 5940        | 960          | 4943        | 972          | 4701        | 989            | 4463        | 1001         | 4323        | 1036              | 4002        | 1110         | 3567        | 1219         | 3168        |
| BA (ft <sup>2</sup> /ac)  | 145                         | 12               | 158         | 15           | 132         | 16           | 126         | 17             | 119         | 18           | 116         | 20                | 107         | 23           | 96          | 27           | 85          |
| VOL (ft <sup>3</sup> /ac) | 5500                        | 943              | 6443        | 947          | 5330        | 955          | 5059        | 967            | 4791        | 976          | 4633        | 1006              | 4271        | 1070         | 3777        | 1171         | 3300        |
| BA (ft <sup>2</sup> /ac)  | 160                         | 11               | 172         | 14           | 142         | 15           | 135         | 16             | 128         | 17           | 124         | 18                | 114         | 21           | 101         | 25           | 89          |
| VOL (ft <sup>3</sup> /ac) | 6000                        | 952              | 6952        | 941          | 5724        | 945          | 5423        | 953            | 5127        | 959          | 4951        | 982               | 4548        | 1037         | 3995        | 1130         | 3478        |
| BA (ft <sup>2</sup> /ac)  | 174                         | 10               | 185         | 13           | 153         | 14           | 145         | 15             | 137         | 15           | 132         | 17                | 122         | 20           | 107         | 24           | 93          |
| VOL (ft <sup>3</sup> /ac) | 6500                        | 966              | 7466        | 940          | 6123        | 940          | 5794        | 944            | 5468        | 948          | 5275        | 965               | 4831        | 1011         | 4218        | 1094         | 3643        |
| BA (ft <sup>2</sup> /ac)  | 188                         | 10               | 198         | 12           | 163         | 13           | 154         | 14             | 146         | 14           | 141         | 16                | 129         | 19           | 113         | 22           | 98          |
| VOL (ft <sup>3</sup> /ac) | 7000                        | 985              | 7985        | 944          | 6527        | 940          | 6169        | 940            | 5815        | 942          | 5604        | 953               | 5119        | 990          | 4447        | 1064         | 3813        |
| BA (ft <sup>2</sup> /ac)  | 203                         | 9                | 212         | 11           | 174         | 12           | 164         | 13             | 155         | 13           | 149         | 15                | 137         | 17           | 119         | 21           | 102         |
| VOL (ft <sup>3</sup> /ac) | 7500                        | 1006             | 8506        | 952          | 6935        | 945          | 6548        | 940            | 6165        | 940          | 5937        | 945               | 5411        | 973          | 4681        | 1038         | 3987        |
| BA (ft <sup>2</sup> /ac)  | 217                         | 8                | 226         | 11           | 184         | 11           | 174         | 12             | 164         | 12           | 158         | 14                | 144         | 16           | 125         | 20           | 107         |
| VOL (ft <sup>3</sup> /ac) | 8000                        | 1030             | 9030        | 963          | 7346        | 952          | 6930        | 944            | 6518        | 941          | 6273        | 941               | 5707        | 961          | 4918        | 1017         | 4165        |
| BA (ft <sup>2</sup> /ac)  | 231                         | 8                | 240         | 10           | 195         | 11           | 184         | 11             | 173         | 12           | 167         | 13                | 152         | 15           | 131         | 19           | 111         |
| VOL (ft <sup>3</sup> /ac) | 8500                        | 1056             | 9556        | 976          | 7759        | 962          | 7315        | 951            | 6875        | 946          | 6612        | 940               | 6006        | 952          | 5159        | 999          | 4347        |
| BA (ft <sup>2</sup> /ac)  | 246                         | 7                | 254         | 9            | 206         | 10           | 194         | 11             | 183         | 11           | 176         | 12                | 160         | 15           | 138         | 18           | 116         |
| VOL (ft <sup>3</sup> /ac) | 9000                        | 1084             | 10084       | 992          | 8175        | 974          | 7703        | 960            | 7234        | 952          | 6954        | 942               | 6307        | 945          | 5402        | 983          | 4532        |
| BA (ft <sup>2</sup> /ac)  | 260                         | 7                | 267         | 9            | 217         | 9            | 205         | 10             | 192         | 10           | 185         | 12                | 168         | 14           | 144         | 17           | 121         |
|                           | SITE INDEX                  | 80               |             | PRESENT AGE  | 50          |              |             | PRESENT HEIGHT | 80.0 FT     |              |             | HEIGHT IN 5 YEARS | 86.1 FT     |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 5000                        | 812              | 5812        | 829          | 4812        | 840          | 4569        | 855            | 4329        | 866          | 4187        | 898               | 3863        | 964          | 3421        | 1064         | 3012        |
| BA (ft <sup>2</sup> /ac)  | 133                         | 10               | 144         | 12           | 119         | 13           | 113         | 14             | 108         | 14           | 104         | 16                | 96          | 18           | 85          | 22           | 75          |
| VOL (ft <sup>3</sup> /ac) | 5500                        | 815              | 5315        | 818          | 5201        | 825          | 4929        | 836            | 4660        | 844          | 4501        | 870               | 4136        | 928          | 3635        | 1020         | 3168        |
| BA (ft <sup>2</sup> /ac)  | 147                         | 9                | 156         | 11           | 129         | 12           | 122         | 13             | 116         | 13           | 112         | 15                | 103         | 17           | 91          | 20           | 79          |
| VOL (ft <sup>3</sup> /ac) | 6000                        | 823              | 6823        | 813          | 5596        | 816          | 5295        | 823            | 4997        | 829          | 4821        | 849               | 4415        | 898          | 3856        | 982          | 3330        |
| BA (ft <sup>2</sup> /ac)  | 160                         | 8                | 169         | 10           | 139         | 11           | 131         | 12             | 124         | 12           | 120         | 13                | 110         | 16           | 96          | 19           | 83          |
| VOL (ft <sup>3</sup> /ac) | 6500                        | 836              | 7336        | 813          | 5995        | 812          | 5666        | 816            | 5340        | 819          | 5146        | 834               | 4700        | 875          | 4082        | 950          | 3498        |
| BA (ft <sup>2</sup> /ac)  | 173                         | 8                | 181         | 9            | 148         | 10           | 140         | 11             | 132         | 11           | 128         | 12                | 117         | 15           | 101         | 18           | 87          |
| VOL (ft <sup>3</sup> /ac) | 7000                        | 852              | 7852        | 816          | 6399        | 813          | 6041        | 812            | 5687        | 814          | 5476        | 823               | 4989        | 856          | 4313        | 922          | 3671        |
| BA (ft <sup>2</sup> /ac)  | 186                         | 7                | 194         | 9            | 158         | 9            | 149         | 10             | 141         | 11           | 138         | 12                | 124         | 14           | 107         | 17           | 91          |
| VOL (ft <sup>3</sup> /ac) | 7500                        | 871              | 8371        | 823          | 6806        | 816          | 6420        | 813            | 6037        | 812          | 5809        | 817               | 5282        | 842          | 4549        | 899          | 3848        |
| BA (ft <sup>2</sup> /ac)  | 199                         | 7                | 206         | 8            | 168         | 9            | 159         | 9              | 149         | 10           | 144         | 11                | 131         | 13           | 113         | 16           | 96          |
| VOL (ft <sup>3</sup> /ac) | 8000                        | 892              | 8892        | 833          | 7216        | 823          | 6802        | 816            | 6390        | 813          | 6145        | 813               | 5579        | 830          | 4782        | 880          | 4029        |
| BA (ft <sup>2</sup> /ac)  | 213                         | 6                | 219         | 8            | 178         | 8            | 168         | 9              | 158         | 9            | 152         | 10                | 138         | 12           | 119         | 15           | 100         |
| VOL (ft <sup>3</sup> /ac) | 8500                        | 915              | 9415        | 845          | 7628        | 832          | 7186        | 822            | 6746        | 817          | 6484        | 812               | 5878        | 822          | 5029        | 864          | 4212        |
| BA (ft <sup>2</sup> /ac)  | 226                         | 6                | 232         | 7            | 188         | 8            | 177         | 8              | 167         | 9            | 160         | 10                | 145         | 12           | 125         | 14           | 105         |
| VOL (ft <sup>3</sup> /ac) | 9000                        | 939              | 9939        | 859          | 8041        | 843          | 7571        | 830            | 7104        | 823          | 6825        | 814               | 6179        | 817          | 5274        | 850          | 4399        |
| BA (ft <sup>2</sup> /ac)  | 239                         | 5                | 245         | 7            | 198         | 7            | 187         | 8              | 175         | 8            | 169         | 9                 | 153         | 11           | 131         | 13           | 109         |
| VOL (ft <sup>3</sup> /ac) | 9500                        | 965              | 10465       | 874          | 8457        | 856          | 7959        | 840            | 7464        | 831          | 7168        | 817               | 6483        | 813          | 5521        | 839          | 4588        |
| BA (ft <sup>2</sup> /ac)  | 252                         | 5                | 258         | 6            | 209         | 7            | 196         | 7              | 184         | 8            | 177         | 9                 | 160         | 10           | 137         | 13           | 114         |
| VOL (ft <sup>3</sup> /ac) | 10000                       | 993              | 10993       | 891          | 8874        | 870          | 8348        | 851            | 7825        | 841          | 7513        | 823               | 6788        | 812          | 5769        | 831          | 4779        |
| BA (ft <sup>2</sup> /ac)  | 265                         | 5                | 271         | 6            | 219         | 7            | 206         | 7              | 193         | 7            | 185         | 8                 | 168         | 10           | 143         | 12           | 119         |

TABLE 10 (continued)

|                           |                             | Percent thinning |             |                |             |              |             |                        |             |              |             |                           |             |              |             |              |             |  |  |
|---------------------------|-----------------------------|------------------|-------------|----------------|-------------|--------------|-------------|------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|--------------|-------------|--|--|
|                           | Stand<br>before<br>thinning | 0                |             | 20             |             | 25           |             | 30                     |             | 33           |             | 40                        |             | 50           |             | 60           |             |  |  |
|                           |                             | 5-yr<br>grth     | 5-yr<br>y'd | 5-yr<br>grth   | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth           | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth              | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |  |  |
|                           | SITE INDEX                  | 80               |             | PRESENT AGE 55 |             |              |             | PRESENT HEIGHT 86.1 FT |             |              |             | HEIGHT IN 5 YEARS 91.9 FT |             |              |             |              |             |  |  |
| VOL (ft <sup>3</sup> /ac) | 5500                        | 650              | 6150        | 639            | 5022        | 641          | 4745        | 646                    | 4470        | 650          | 4307        | 666                       | 3931        | 704          | 3411        | 770          | 2919        |  |  |
| BA (ft <sup>2</sup> /ac)  | 136                         | 6                | 142         | 7              | 117         | 8            | 110         | 8                      | 104         | 9            | 100         | 10                        | 92          | 11           | 80          | 14           | 68          |  |  |
| VOL (ft <sup>3</sup> /ac) | 6000                        | 662              | 6662        | 640            | 5423        | 639          | 5117        | 640                    | 4815        | 643          | 4634        | 653                       | 4219        | 684          | 3641        | 742          | 3091        |  |  |
| BA (ft <sup>2</sup> /ac)  | 148                         | 5                | 154         | 7              | 126         | 7            | 119         | 8                      | 112         | 8            | 108         | 9                         | 98          | 10           | 85          | 13           | 72          |  |  |
| VOL (ft <sup>3</sup> /ac) | 6500                        | 677              | 7177        | 644            | 5827        | 640          | 5494        | 639                    | 5163        | 639          | 4966        | 645                       | 4511        | 669          | 3876        | 719          | 3268        |  |  |
| BA (ft <sup>2</sup> /ac)  | 161                         | 5                | 166         | 6              | 135         | 7            | 127         | 7                      | 120         | 7            | 115         | 8                         | 105         | 10           | 90          | 12           | 76          |  |  |
| VOL (ft <sup>3</sup> /ac) | 7000                        | 695              | 7695        | 652            | 6235        | 645          | 5874        | 641                    | 5515        | 639          | 5301        | 640                       | 4806        | 657          | 4114        | 700          | 3449        |  |  |
| BA (ft <sup>2</sup> /ac)  | 173                         | 4                | 178         | 6              | 144         | 6            | 136         | 7                      | 128         | 7            | 123         | 8                         | 112         | 9            | 96          | 11           | 81          |  |  |
| VOL (ft <sup>3</sup> /ac) | 7500                        | 714              | 8214        | 662            | 6644        | 652          | 6256        | 645                    | 5889        | 642          | 5639        | 639                       | 5105        | 649          | 4356        | 684          | 3633        |  |  |
| BA (ft <sup>2</sup> /ac)  | 185                         | 4                | 190         | 5              | 154         | 6            | 145         | 6                      | 136         | 6            | 131         | 7                         | 118         | 9            | 101         | 11           | 85          |  |  |
| VOL (ft <sup>3</sup> /ac) | 8000                        | 736              | 8736        | 673            | 7056        | 661          | 6640        | 651                    | 6226        | 647          | 5978        | 640                       | 5405        | 643          | 4600        | 672          | 3820        |  |  |
| BA (ft <sup>2</sup> /ac)  | 197                         | 4                | 202         | 5              | 163         | 5            | 154         | 6                      | 144         | 6            | 139         | 7                         | 125         | 8            | 107         | 10           | 89          |  |  |
| VOL (ft <sup>3</sup> /ac) | 8500                        | 759              | 9259        | 687            | 7470        | 672          | 7026        | 660                    | 6584        | 654          | 6320        | 643                       | 5708        | 640          | 4847        | 662          | 4010        |  |  |
| BA (ft <sup>2</sup> /ac)  | 210                         | 4                | 214         | 5              | 173         | 5            | 163         | 5                      | 152         | 6            | 146         | 6                         | 132         | 8            | 113         | 9            | 93          |  |  |
| VOL (ft <sup>3</sup> /ac) | 9000                        | 783              | 9783        | 702            | 7885        | 685          | 7414        | 670                    | 6944        | 662          | 6664        | 647                       | 6013        | 639          | 5096        | 654          | 4202        |  |  |
| BA (ft <sup>2</sup> /ac)  | 222                         | 3                | 226         | 4              | 182         | 5            | 171         | 5                      | 161         | 5            | 154         | 6                         | 139         | 7            | 118         | 9            | 98          |  |  |
| VOL (ft <sup>3</sup> /ac) | 9500                        | 807              | 10307       | 718            | 8301        | 699          | 7802        | 681                    | 7306        | 672          | 7009        | 654                       | 6319        | 639          | 5347        | 648          | 4396        |  |  |
| BA (ft <sup>2</sup> /ac)  | 234                         | 3                | 238         | 4              | 192         | 4            | 180         | 5                      | 169         | 5            | 162         | 6                         | 146         | 7            | 124         | 8            | 102         |  |  |
| VOL (ft <sup>3</sup> /ac) | 10000                       | 833              | 10833       | 735            | 8718        | 714          | 8192        | 694                    | 7668        | 683          | 7355        | 661                       | 6627        | 641          | 5599        | 643          | 4592        |  |  |
| BA (ft <sup>2</sup> /ac)  | 246                         | 3                | 250         | 4              | 201         | 4            | 189         | 5                      | 177         | 5            | 170         | 5                         | 153         | 6            | 130         | 8            | 107         |  |  |
| VOL (ft <sup>3</sup> /ac) | 10500                       | 860              | 11360       | 753            | 9136        | 729          | 8583        | 707                    | 8032        | 695          | 7702        | 670                       | 6935        | 645          | 5852        | 641          | 4789        |  |  |
| BA (ft <sup>2</sup> /ac)  | 258                         | 3                | 262         | 4              | 211         | 4            | 198         | 4                      | 186         | 4            | 178         | 5                         | 160         | 6            | 136         | 8            | 111         |  |  |
| VOL (ft <sup>3</sup> /ac) | 11000                       | 887              | 11887       | 772            | 9555        | 746          | 8975        | 722                    | 8396        | 708          | 8050        | 679                       | 7245        | 649          | 6106        | 639          | 4988        |  |  |
| BA (ft <sup>2</sup> /ac)  | 271                         | 3                | 274         | 4              | 220         | 4            | 207         | 4                      | 194         | 4            | 186         | 5                         | 168         | 6            | 141         | 7            | 116         |  |  |

TABLE 10 (continued)

|                           |       | Percent thinning |          |           |          |                        |          |           |          |                           |          |           |          |           |          |           |          |  |  |
|---------------------------|-------|------------------|----------|-----------|----------|------------------------|----------|-----------|----------|---------------------------|----------|-----------|----------|-----------|----------|-----------|----------|--|--|
|                           |       | 0                |          | 20        |          | 25                     |          | 30        |          | 33                        |          | 40        |          | 50        |          | 60        |          |  |  |
| Stand before thinning     |       | 5-yr grth        | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth              | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth                 | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld |  |  |
| SITE INDEX 80             |       | PRESENT AGE 60   |          |           |          | PRESENT HEIGHT 91.9 FT |          |           |          | HEIGHT IN 5 YEARS 97.4 FT |          |           |          |           |          |           |          |  |  |
| VOL (ft <sup>3</sup> /ac) | 8000  | 457              | 6457     | 408       | 5191     | 398                    | 4876     | 388       | 4563     | 383                       | 4375     | 374       | 3940     | 368       | 3325     | 375       | 2724     |  |  |
| BA (ft <sup>2</sup> /ac)  | 139   | 2                | 141      | 2         | 114      | 2                      | 107      | 2         | 100      | 3                         | 96       | 3         | 87       | 4         | 73       | 4         | 60       |  |  |
| VOL (ft <sup>3</sup> /ac) | 8500  | 480              | 6980     | 423       | 5606     | 411                    | 5264     | 399       | 4923     | 393                       | 4720     | 380       | 4246     | 369       | 3576     | 371       | 2919     |  |  |
| BA (ft <sup>2</sup> /ac)  | 150   | 1                | 152      | 2         | 123      | 2                      | 115      | 2         | 108      | 2                         | 103      | 3         | 93       | 3         | 79       | 4         | 65       |  |  |
| VOL (ft <sup>3</sup> /ac) | 7000  | 503              | 7503     | 439       | 6022     | 425                    | 5653     | 411       | 5286     | 404                       | 5066     | 388       | 4554     | 372       | 3829     | 368       | 3117     |  |  |
| BA (ft <sup>2</sup> /ac)  | 162   | 1                | 164      | 2         | 132      | 2                      | 124      | 2         | 116      | 2                         | 111      | 2         | 100      | 3         | 84       | 4         | 69       |  |  |
| VOL (ft <sup>3</sup> /ac) | 7500  | 527              | 8027     | 456       | 6439     | 440                    | 6044     | 425       | 5649     | 416                       | 5413     | 397       | 4863     | 377       | 4084     | 368       | 3316     |  |  |
| BA (ft <sup>2</sup> /ac)  | 173   | 1                | 175      | 2         | 141      | 2                      | 132      | 2         | 124      | 2                         | 118      | 2         | 107      | 3         | 90       | 4         | 73       |  |  |
| VOL (ft <sup>3</sup> /ac) | 8000  | 552              | 8552     | 474       | 6857     | 456                    | 6435     | 439       | 6013     | 429                       | 5761     | 407       | 5173     | 383       | 4340     | 369       | 3517     |  |  |
| BA (ft <sup>2</sup> /ac)  | 185   | 1                | 186      | 1         | 150      | 2                      | 141      | 2         | 131      | 2                         | 126      | 2         | 113      | 3         | 95       | 3         | 77       |  |  |
| VOL (ft <sup>3</sup> /ac) | 8500  | 578              | 9078     | 493       | 7276     | 473                    | 6826     | 454       | 6378     | 443                       | 6109     | 418       | 5484     | 389       | 4597     | 371       | 3719     |  |  |
| BA (ft <sup>2</sup> /ac)  | 196   | 1                | 198      | 1         | 159      | 1                      | 149      | 2         | 139      | 2                         | 134      | 2         | 120      | 2         | 101      | 3         | 82       |  |  |
| VOL (ft <sup>3</sup> /ac) | 9000  | 604              | 9604     | 512       | 7695     | 490                    | 7219     | 469       | 6743     | 457                       | 6459     | 430       | 5796     | 397       | 4854     | 374       | 3822     |  |  |
| BA (ft <sup>2</sup> /ac)  | 208   | 1                | 209      | 1         | 168      | 1                      | 158      | 1         | 147      | 2                         | 141      | 2         | 127      | 2         | 106      | 3         | 86       |  |  |
| VOL (ft <sup>3</sup> /ac) | 9500  | 630              | 10130    | 532       | 8114     | 508                    | 7612     | 485       | 7110     | 472                       | 6809     | 443       | 6108     | 405       | 5113     | 378       | 4126     |  |  |
| BA (ft <sup>2</sup> /ac)  | 219   | 1                | 221      | 1         | 177      | 1                      | 166      | 1         | 155      | 1                         | 149      | 2         | 124      | 2         | 112      | 3         | 91       |  |  |
| VOL (ft <sup>3</sup> /ac) | 10000 | 657              | 10657    | 552       | 8534     | 526                    | 8005     | 502       | 7476     | 488                       | 7159     | 455       | 6421     | 414       | 5372     | 382       | 4331     |  |  |
| BA (ft <sup>2</sup> /ac)  | 231   | 1                | 232      | 1         | 186      | 1                      | 175      | 1         | 163      | 1                         | 156      | 2         | 140      | 2         | 118      | 3         | 95       |  |  |
| VOL (ft <sup>3</sup> /ac) | 10500 | 684              | 11184    | 572       | 8955     | 545                    | 8399     | 519       | 7843     | 503                       | 7510     | 469       | 6735     | 424       | 5631     | 388       | 4536     |  |  |
| BA (ft <sup>2</sup> /ac)  | 242   | 1                | 243      | 1         | 195      | 1                      | 183      | 1         | 171      | 1                         | 164      | 1         | 147      | 2         | 123      | 2         | 100      |  |  |
| VOL (ft <sup>3</sup> /ac) | 11000 | 711              | 11711    | 593       | 9375     | 564                    | 8793     | 536       | 8210     | 520                       | 7861     | 483       | 7048     | 434       | 5891     | 394       | 4742     |  |  |
| BA (ft <sup>2</sup> /ac)  | 254   | 1                | 255      | 1         | 204      | 1                      | 192      | 1         | 179      | 1                         | 171      | 1         | 154      | 2         | 129      | 2         | 104      |  |  |
| VOL (ft <sup>3</sup> /ac) | 11500 | 739              | 12239    | 614       | 9796     | 583                    | 9187     | 554       | 8578     | 536                       | 8213     | 497       | 7362     | 444       | 6151     | 400       | 4949     |  |  |
| BA (ft <sup>2</sup> /ac)  | 265   | 1                | 266      | 1         | 213      | 1                      | 200      | 1         | 187      | 1                         | 179      | 1         | 161      | 2         | 134      | 2         | 108      |  |  |
| VOL (ft <sup>3</sup> /ac) | 12000 | 766              | 12766    | 635       | 10218    | 603                    | 9581     | 571       | 8946     | 553                       | 8565     | 511       | 7677     | 455       | 6412     | 407       | 5155     |  |  |
| BA (ft <sup>2</sup> /ac)  | 277   | 1                | 278      | 1         | 222      | 1                      | 209      | 1         | 195      | 1                         | 187      | 1         | 167      | 2         | 140      | 2         | 113      |  |  |

TABLE 10 (continued)

|                          |      | Percent thinning |           |           |           |                        |           |           |           |                           |           |           |           |           |           |           |           |
|--------------------------|------|------------------|-----------|-----------|-----------|------------------------|-----------|-----------|-----------|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                          |      | 0                |           | 20        |           | 25                     |           | 30        |           | 33                        |           | 40        |           | 50        |           | 60        |           |
| Stand before thinning    |      | 5-yr grth        | 5-yr y'ld | 5-yr grth | 5-yr y'ld | 5-yr grth              | 5-yr y'ld | 5-yr grth | 5-yr y'ld | 5-yr grth                 | 5-yr y'ld | 5-yr grth | 5-yr y'ld | 5-yr grth | 5-yr y'ld | 5-yr grth | 5-yr y'ld |
| SITE INDEX 85            |      | PRESENT AGE 20   |           |           |           | PRESENT HEIGHT 36.3 FT |           |           |           | HEIGHT IN 5 YEARS 47.0 FT |           |           |           |           |           |           |           |
| VOL (R <sup>3</sup> /ac) | 1900 | 1355             | 2855      | 1431      | 2614      | 1455                   | 2559      | 1482      | 2506      | 1500                      | 2478      | 1544      | 2410      | 1618      | 2325      | 1705      | 2253      |
| BA (R <sup>2</sup> /ac)  | 87   | 44               | 131       | 51        | 121       | 53                     | 118       | 55        | 116       | 56                        | 114       | 59        | 111       | 64        | 108       | 70        | 104       |
| VOL (R <sup>3</sup> /ac) | 2000 | 1292             | 3292      | 1340      | 2923      | 1359                   | 2838      | 1381      | 2755      | 1396                      | 2708      | 1436      | 2602      | 1507      | 2464      | 1597      | 2346      |
| BA (R <sup>2</sup> /ac)  | 114  | 36               | 151       | 43        | 134       | 45                     | 131       | 47        | 127       | 48                        | 125       | 51        | 120       | 57        | 114       | 63        | 109       |
| VOL (R <sup>3</sup> /ac) | 2500 | 1277             | 3777      | 1293      | 3276      | 1305                   | 3158      | 1320      | 3044      | 1330                      | 2977      | 1362      | 2827      | 1424      | 2631      | 1510      | 2459      |
| BA (R <sup>2</sup> /ac)  | 142  | 31               | 173       | 37        | 150       | 38                     | 145       | 40        | 140       | 42                        | 137       | 45        | 130       | 50        | 121       | 57        | 114       |
| VOL (R <sup>3</sup> /ac) | 3000 | 1295             | 4295      | 1277      | 3660      | 1281                   | 3508      | 1287      | 3382      | 1293                      | 3275      | 1314      | 3080      | 1363      | 2821      | 1441      | 2590      |
| BA (R <sup>2</sup> /ac)  | 169  | 26               | 196       | 32        | 168       | 33                     | 161       | 35        | 154       | 37                        | 150       | 40        | 142       | 45        | 130       | 52        | 120       |
| VOL (R <sup>3</sup> /ac) | 3500 | 1334             | 4834      | 1284      | 4067      | 1279                   | 3882      | 1277      | 3701      | 1278                      | 3585      | 1288      | 3354      | 1322      | 3029      | 1387      | 2736      |
| BA (R <sup>2</sup> /ac)  | 197  | 23               | 220       | 28        | 186       | 30                     | 177       | 31        | 180       | 32                        | 185       | 35        | 154       | 41        | 139       | 47        | 126       |
| SITE INDEX 85            |      | PRESENT AGE 25   |           |           |           | PRESENT HEIGHT 47.0 FT |           |           |           | HEIGHT IN 5 YEARS 55.3 FT |           |           |           |           |           |           |           |
| VOL (R <sup>3</sup> /ac) | 2000 | 1342             | 3342      | 1427      | 3010      | 1455                   | 2934      | 1486      | 2860      | 1506                      | 2818      | 1558      | 2724      | 1646      | 2604      | 1752      | 2501      |
| BA (R <sup>2</sup> /ac)  | 93   | 37               | 130       | 43        | 117       | 44                     | 115       | 46        | 112       | 47                        | 110       | 50        | 107       | 55        | 102       | 61        | 98        |
| VOL (R <sup>3</sup> /ac) | 2500 | 1286             | 3786      | 1345      | 3328      | 1368                   | 3221      | 1394      | 3118      | 1411                      | 3058      | 1459      | 2924      | 1543      | 2750      | 1650      | 2599      |
| BA (R <sup>2</sup> /ac)  | 115  | 31               | 147       | 37        | 130       | 38                     | 126       | 40        | 122       | 42                        | 119       | 45        | 114       | 50        | 108       | 55        | 102       |
| VOL (R <sup>3</sup> /ac) | 3000 | 1264             | 4264      | 1295      | 3678      | 1311                   | 3540      | 1331      | 3406      | 1345                      | 3327      | 1385      | 3151      | 1461      | 2918      | 1565      | 2714      |
| BA (R <sup>2</sup> /ac)  | 136  | 27               | 165       | 32        | 143       | 34                     | 138       | 36        | 133       | 37                        | 130       | 40        | 123       | 45        | 114       | 51        | 106       |
| VOL (R <sup>3</sup> /ac) | 3500 | 1266             | 4766      | 1270      | 4053      | 1279                   | 3882      | 1282      | 3716      | 1302                      | 3619      | 1333      | 3398      | 1398      | 3105      | 1494      | 2843      |
| BA (R <sup>2</sup> /ac)  | 160  | 24               | 184       | 29        | 157       | 30                     | 151       | 32        | 144       | 33                        | 141       | 36        | 132       | 41        | 121       | 47        | 111       |
| VOL (R <sup>3</sup> /ac) | 4000 | 1286             | 5286      | 1282      | 4445      | 1284                   | 4243      | 1270      | 4044      | 1276                      | 3928      | 1297      | 3663      | 1349      | 3307      | 1436      | 2984      |
| BA (R <sup>2</sup> /ac)  | 183  | 21               | 204       | 26        | 172       | 27                     | 164       | 29        | 157       | 30                        | 152       | 32        | 142       | 37        | 129       | 43        | 117       |
| VOL (R <sup>3</sup> /ac) | 4500 | 1318             | 5818      | 1268      | 4851      | 1263                   | 4617      | 1262      | 4386      | 1264                      | 4251      | 1275      | 3941      | 1314      | 3521      | 1389      | 3137      |
| BA (R <sup>2</sup> /ac)  | 205  | 19               | 224       | 23        | 186       | 24                     | 179       | 26        | 170       | 27                        | 165       | 30        | 153       | 34        | 137       | 40        | 122       |
| SITE INDEX 85            |      | PRESENT AGE 30   |           |           |           | PRESENT HEIGHT 55.3 FT |           |           |           | HEIGHT IN 5 YEARS 63.3 FT |           |           |           |           |           |           |           |
| VOL (R <sup>3</sup> /ac) | 3000 | 1251             | 4251      | 1316      | 3899      | 1340                   | 3589      | 1369      | 3443      | 1388                      | 3370      | 1440      | 3206      | 1533      | 2990      | 1654      | 2802      |
| BA (R <sup>2</sup> /ac)  | 117  | 26               | 144       | 32        | 126       | 33                     | 121       | 35        | 117       | 36                        | 115       | 39        | 109       | 43        | 102       | 49        | 96        |
| VOL (R <sup>3</sup> /ac) | 3500 | 1228             | 4728      | 1268      | 4051      | 1287                   | 3891      | 1310      | 3734      | 1326                      | 3643      | 1371      | 3436      | 1456      | 3163      | 1572      | 2921      |
| BA (R <sup>2</sup> /ac)  | 136  | 23               | 160       | 28        | 137       | 29                     | 132       | 31        | 127       | 32                        | 124       | 35        | 117       | 39        | 108       | 45        | 100       |
| VOL (R <sup>3</sup> /ac) | 4000 | 1224             | 5224      | 1240      | 4423      | 1252                   | 4231      | 1269      | 4043      | 1282                      | 3933      | 1318      | 3684      | 1393      | 3351      | 1503      | 3052      |
| BA (R <sup>2</sup> /ac)  | 155  | 21               | 176       | 25        | 150       | 27                     | 143       | 28        | 137       | 29                        | 133       | 32        | 125       | 36        | 114       | 42        | 104       |
| VOL (R <sup>3</sup> /ac) | 4500 | 1233             | 5733      | 1226      | 4809      | 1232                   | 4586      | 1243      | 4367      | 1252                      | 4239      | 1280      | 3946      | 1344      | 3551      | 1444      | 3193      |
| BA (R <sup>2</sup> /ac)  | 174  | 19               | 193       | 23        | 163       | 24                     | 155       | 26        | 148       | 26                        | 144       | 29        | 134       | 33        | 121       | 39        | 109       |
| VOL (R <sup>3</sup> /ac) | 5000 | 1254             | 6254      | 1224      | 5206      | 1224                   | 4953      | 1229      | 4703      | 1234                      | 4555      | 1253      | 4219      | 1305      | 3762      | 1395      | 3344      |
| BA (R <sup>2</sup> /ac)  | 193  | 17               | 211       | 21        | 175       | 22                     | 167       | 23        | 159       | 24                        | 154       | 27        | 143       | 31        | 128       | 36        | 114       |
| VOL (R <sup>3</sup> /ac) | 5500 | 1283             | 6783      | 1230      | 5613      | 1225                   | 5328      | 1223      | 5048      | 1225                      | 4882      | 1236      | 4502      | 1276      | 3983      | 1355      | 3503      |
| BA (R <sup>2</sup> /ac)  | 212  | 15               | 228       | 19        | 189       | 20                     | 180       | 22        | 171       | 22                        | 165       | 25        | 152       | 29        | 135       | 34        | 119       |
| VOL (R <sup>3</sup> /ac) | 6000 | 1318             | 7318      | 1244      | 6027      | 1233                   | 5711      | 1226      | 5400      | 1224                      | 5215      | 1226      | 4792      | 1254      | 4211      | 1321      | 3669      |
| BA (R <sup>2</sup> /ac)  | 231  | 14               | 246       | 18        | 203       | 19                     | 193       | 20        | 182       | 21                        | 176       | 23        | 162       | 27        | 143       | 32        | 125       |

TABLE 10 (continued)

|                           |                       | Percent thinning |             |           |          |           |          |                |          |           |          |           |                   |           |          |           |          |
|---------------------------|-----------------------|------------------|-------------|-----------|----------|-----------|----------|----------------|----------|-----------|----------|-----------|-------------------|-----------|----------|-----------|----------|
|                           | Stand before thinning | 0                |             | 20        |          | 25        |          | 30             |          | 33        |          | 40        |                   | 50        |          | 60        |          |
|                           |                       | 5-yr grth        | 5-yr yld    | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth      | 5-yr yld | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld          | 5-yr grth | 5-yr yld | 5-yr grth | 5-yr yld |
| SITE INDEX                |                       | 85               | PRESENT AGE |           |          |           | 35       | PRESENT HEIGHT |          |           |          | 63.3 FT   | HEIGHT IN 5 YEARS |           |          |           | 70.9 FT  |
| VOL (ft <sup>3</sup> /ac) | 3500                  | 1189             | 4689        | 1253      | 4036     | 1278      | 3882     | 1307           | 3731     | 1327      | 3644     | 1380      | 3446              | 1478      | 3185     | 1607      | 2955     |
| BA (ft <sup>2</sup> /ac)  | 119                   | 22               | 141         | 27        | 122      | 28        | 117      | 29             | 113      | 30        | 110      | 33        | 105               | 37        | 97       | 42        | 90       |
| VOL (ft <sup>3</sup> /ac) | 4000                  | 1169             | 5169        | 1211      | 4394     | 1231      | 4209     | 1254           | 4029     | 1271      | 3923     | 1318      | 3683              | 1407      | 3364     | 1531      | 3079     |
| BA (ft <sup>2</sup> /ac)  | 136                   | 20               | 156         | 24        | 133      | 25        | 127      | 27             | 122      | 28        | 119      | 30        | 112               | 34        | 102      | 39        | 94       |
| VOL (ft <sup>3</sup> /ac) | 4500                  | 1163             | 5663        | 1184      | 4767     | 1198      | 4552     | 1217           | 4341     | 1230      | 4217     | 1269      | 3935              | 1349      | 3556     | 1465      | 3214     |
| BA (ft <sup>2</sup> /ac)  | 152                   | 18               | 170         | 22        | 144      | 23        | 137      | 24             | 131      | 25        | 127      | 27        | 119               | 31        | 108      | 37        | 98       |
| VOL (ft <sup>3</sup> /ac) | 5000                  | 1169             | 6169        | 1169      | 5152     | 1178      | 4906     | 1190           | 4665     | 1201      | 4522     | 1232      | 4198              | 1301      | 3759     | 1409      | 3358     |
| BA (ft <sup>2</sup> /ac)  | 189                   | 16               | 185         | 20        | 155      | 21        | 148      | 22             | 141      | 23        | 137      | 25        | 127               | 29        | 114      | 34        | 102      |
| VOL (ft <sup>3</sup> /ac) | 5500                  | 1183             | 6683        | 1163      | 5546     | 1167      | 5270     | 1174           | 4998     | 1181      | 4838     | 1205      | 4470              | 1263      | 3970     | 1362      | 3510     |
| BA (ft <sup>2</sup> /ac)  | 186                   | 15               | 201         | 18        | 167      | 19        | 159      | 20             | 151      | 21        | 146      | 23        | 135               | 27        | 120      | 32        | 106      |
| VOL (ft <sup>3</sup> /ac) | 6000                  | 1204             | 7204        | 1165      | 5948     | 1163      | 5642     | 1165           | 5340     | 1169      | 5161     | 1185      | 4751              | 1233      | 4190     | 1321      | 3669     |
| BA (ft <sup>2</sup> /ac)  | 202                   | 14               | 216         | 17        | 179      | 18        | 170      | 19             | 161      | 20        | 156      | 22        | 143               | 25        | 127      | 30        | 111      |
| VOL (ft <sup>3</sup> /ac) | 6500                  | 1230             | 7730        | 1173      | 6356     | 1166      | 6020     | 1163           | 5688     | 1164      | 5490     | 1173      | 5038              | 1209      | 4417     | 1287      | 3835     |
| BA (ft <sup>2</sup> /ac)  | 219                   | 13               | 232         | 16        | 191      | 17        | 181      | 18             | 171      | 18        | 165      | 20        | 152               | 24        | 133      | 28        | 116      |
| VOL (ft <sup>3</sup> /ac) | 7000                  | 1260             | 8260        | 1186      | 6769     | 1174      | 6403     | 1166           | 6041     | 1164      | 5826     | 1166      | 5331              | 1192      | 4649     | 1258      | 4006     |
| BA (ft <sup>2</sup> /ac)  | 236                   | 12               | 248         | 15        | 203      | 15        | 192      | 16             | 182      | 17        | 175      | 19        | 161               | 22        | 140      | 27        | 121      |
| VOL (ft <sup>3</sup> /ac) | 7500                  | 1295             | 8795        | 1203      | 7186     | 1187      | 6790     | 1174           | 6398     | 1169      | 6165     | 1163      | 5629              | 1179      | 4886     | 1234      | 4183     |
| BA (ft <sup>2</sup> /ac)  | 252                   | 11               | 264         | 14        | 216      | 14        | 204      | 15             | 192      | 16        | 185      | 18        | 169               | 21        | 147      | 25        | 126      |
| SITE INDEX                |                       | 85               | PRESENT AGE |           |          |           | 40       | PRESENT HEIGHT |          |           |          | 70.9 FT   | HEIGHT IN 5 YEARS |           |          |           | 78.1 FT  |
| VOL (ft <sup>3</sup> /ac) | 4000                  | 1098             | 5098        | 1155      | 4338     | 1178      | 4156     | 1205           | 3979     | 1224      | 3876     | 1275      | 3641              | 1372      | 3329     | 1502      | 3050     |
| BA (ft <sup>2</sup> /ac)  | 121                   | 18               | 139         | 22        | 119      | 23        | 114      | 24             | 109      | 25        | 106      | 27        | 100               | 31        | 92       | 36        | 84       |
| VOL (ft <sup>3</sup> /ac) | 4500                  | 1083             | 5583        | 1121      | 4704     | 1139      | 4492     | 1161           | 4285     | 1177      | 4163     | 1222      | 3887              | 1309      | 3516     | 1433      | 3182     |
| BA (ft <sup>2</sup> /ac)  | 136                   | 16               | 152         | 20        | 129      | 21        | 123      | 22             | 117      | 23        | 114      | 25        | 107               | 29        | 97       | 33        | 88       |
| VOL (ft <sup>3</sup> /ac) | 5000                  | 1079             | 6079        | 1098      | 5081     | 1111      | 4840     | 1129           | 4603     | 1141      | 4463     | 1179      | 4145              | 1258      | 3715     | 1374      | 3323     |
| BA (ft <sup>2</sup> /ac)  | 151                   | 125              | 166         | 18        | 139      | 19        | 132      | 20             | 126      | 21        | 122      | 23        | 114               | 26        | 102      | 31        | 91       |
| VOL (ft <sup>3</sup> /ac) | 5500                  | 1084             | 6584        | 1085      | 5468     | 1093      | 5197     | 1106           | 4930     | 1116      | 4772     | 1147      | 4412              | 1215      | 3922     | 1323      | 3471     |
| BA (ft <sup>2</sup> /ac)  | 166                   | 13               | 179         | 16        | 149      | 17        | 142      | 19             | 135      | 19        | 131      | 21        | 121               | 25        | 108      | 29        | 95       |
| VOL (ft <sup>3</sup> /ac) | 6000                  | 1096             | 7096        | 1080      | 5863     | 1083      | 5562     | 1091           | 5265     | 1098      | 5090     | 1122      | 4688              | 1180      | 4138     | 1279      | 3627     |
| BA (ft <sup>2</sup> /ac)  | 180                   | 12               | 193         | 15        | 160      | 16        | 152      | 17             | 144      | 18        | 139      | 20        | 128               | 23        | 113      | 27        | 100      |
| VOL (ft <sup>3</sup> /ac) | 6500                  | 1113             | 7613        | 1080      | 6263     | 1079      | 5933     | 1082           | 5607     | 1087      | 5413     | 1104      | 4970              | 1152      | 4360     | 1241      | 3790     |
| BA (ft <sup>2</sup> /ac)  | 195                   | 11               | 207         | 14        | 171      | 15        | 162      | 16             | 153      | 17        | 148      | 18        | 136               | 22        | 119      | 26        | 104      |
| VOL (ft <sup>3</sup> /ac) | 7000                  | 1135             | 8135        | 1086      | 6669     | 1081      | 6309     | 1079           | 5954     | 1081      | 5742     | 1091      | 5257              | 1130      | 4587     | 1209      | 3957     |
| BA (ft <sup>2</sup> /ac)  | 210                   | 11               | 221         | 13        | 182      | 14        | 172      | 15             | 162      | 16        | 157      | 17        | 144               | 20        | 126      | 24        | 109      |
| VOL (ft <sup>3</sup> /ac) | 7500                  | 1160             | 8660        | 1096      | 7078     | 1086      | 6690     | 1081           | 6305     | 1079      | 6076     | 1083      | 5549              | 1113      | 4820     | 1181      | 4130     |
| BA (ft <sup>2</sup> /ac)  | 225                   | 10               | 235         | 12        | 193      | 13        | 182      | 14             | 172      | 15        | 166      | 16        | 152               | 19        | 132      | 23        | 113      |
| VOL (ft <sup>3</sup> /ac) | 8000                  | 1188             | 9188        | 1109      | 7492     | 1095      | 7074     | 1086           | 6660     | 1082      | 6413     | 1080      | 5845              | 1099      | 5057     | 1158      | 4307     |
| BA (ft <sup>2</sup> /ac)  | 240                   | 9                | 250         | 12        | 204      | 12        | 193      | 13             | 182      | 14        | 175      | 15        | 160               | 18        | 138      | 22        | 118      |
| VOL (ft <sup>3</sup> /ac) | 8500                  | 1219             | 9719        | 1125      | 7908     | 1108      | 7461     | 1094           | 7018     | 1088      | 6754     | 1079      | 6145              | 1090      | 5297     | 1139      | 4488     |
| BA (ft <sup>2</sup> /ac)  | 255                   | 9                | 264         | 11        | 215      | 12        | 203      | 12             | 191      | 13        | 184      | 14        | 168               | 17        | 145      | 21        | 123      |

TABLE 10 (continued)

|                           |                             | Percent thinning |             |              |             |              |             |                |             |              |             |                   |             |              |             |              |             |  |  |
|---------------------------|-----------------------------|------------------|-------------|--------------|-------------|--------------|-------------|----------------|-------------|--------------|-------------|-------------------|-------------|--------------|-------------|--------------|-------------|--|--|
|                           | Stand<br>before<br>thinning | 0                |             | 20           |             | 25           |             | 30             |             | 33           |             | 40                |             | 50           |             | 60           |             |  |  |
|                           |                             | 5-yr<br>grth     | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth   | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth      | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld | 5-yr<br>grth | 5-yr<br>yld |  |  |
|                           | SITE INDEX                  | 85               |             | PRESENT AGE  |             | 45           |             | PRESENT HEIGHT |             | 78.1 FT      |             | HEIGHT IN 5 YEARS |             | 85.0 FT      |             |              |             |  |  |
| VOL (ft <sup>3</sup> /ac) | 5000                        | 967              | 5967        | 992          | 4975        | 1006         | 4735        | 1025           | 4499        | 1038         | 4359        | 1076              | 4042        | 1154         | 3611        | 1269         | 3218        |  |  |
| BA (ft <sup>2</sup> /ac)  | 137                         | 12               | 150         | 15           | 125         | 16           | 119         | 17             | 113         | 18           | 110         | 20                | 192         | 123          | 91          | 27           | 81          |  |  |
| VOL (ft <sup>3</sup> /ac) | 5500                        | 968              | 6468        | 977          | 5360        | 987          | 5090        | 1001           | 4825        | 1011         | 4668        | 1043              | 4309        | 1112         | 3819        | 1219         | 3367        |  |  |
| BA (ft <sup>2</sup> /ac)  | 150                         | 11               | 162         | 14           | 135         | 15           | 128         | 16             | 121         | 16           | 117         | 18                | 108         | 21           | 96          | 25           | 85          |  |  |
| VOL (ft <sup>3</sup> /ac) | 6000                        | 976              | 6976        | 969          | 5752        | 974          | 5453        | 984            | 5158        | 992          | 4983        | 1017              | 4583        | 1077         | 4034        | 1175         | 3524        |  |  |
| BA (ft <sup>2</sup> /ac)  | 164                         | 10               | 175         | 13           | 144         | 14           | 137         | 15             | 130         | 15           | 125         | 17                | 115         | 20           | 102         | 23           | 89          |  |  |
| VOL (ft <sup>3</sup> /ac) | 6500                        | 988              | 7488        | 967          | 6149        | 968          | 5822        | 973            | 5498        | 979          | 5305        | 998               | 4864        | 1049         | 4256        | 1138         | 3687        |  |  |
| BA (ft <sup>2</sup> /ac)  | 177                         | 10               | 187         | 12           | 154         | 13           | 146         | 14             | 138         | 14           | 133         | 16                | 122         | 18           | 107         | 22           | 93          |  |  |
| VOL (ft <sup>3</sup> /ac) | 7000                        | 1005             | 8005        | 969          | 6552        | 967          | 6195        | 968            | 5842        | 971          | 5632        | 984               | 5150        | 1026         | 4483        | 1106         | 3854        |  |  |
| BA (ft <sup>2</sup> /ac)  | 191                         | 9                | 200         | 11           | 164         | 12           | 155         | 13             | 146         | 13           | 141         | 15                | 129         | 17           | 113         | 21           | 97          |  |  |
| VOL (ft <sup>3</sup> /ac) | 7500                        | 1025             | 8525        | 975          | 6958        | 969          | 6573        | 967            | 6191        | 967          | 5964        | 975               | 5441        | 1008         | 4715        | 1078         | 4027        |  |  |
| BA (ft <sup>2</sup> /ac)  | 204                         | 8                | 213         | 10           | 174         | 11           | 165         | 12             | 155         | 12           | 150         | 14                | 137         | 16           | 119         | 20           | 101         |  |  |
| VOL (ft <sup>3</sup> /ac) | 8000                        | 1048             | 9048        | 985          | 7368        | 975          | 6954        | 969            | 6543        | 967          | 6299        | 969               | 5735        | 993          | 4951        | 1055         | 4204        |  |  |
| BA (ft <sup>2</sup> /ac)  | 218                         | 8                | 226         | 10           | 184         | 10           | 174         | 11             | 164         | 12           | 158         | 13                | 144         | 15           | 124         | 19           | 106         |  |  |
| VOL (ft <sup>3</sup> /ac) | 8500                        | 1073             | 9573        | 997          | 7780        | 984          | 7338        | 974            | 6898        | 970          | 6637        | 967               | 6032        | 983          | 5190        | 1035         | 4384        |  |  |
| BA (ft <sup>2</sup> /ac)  | 231                         | 7                | 239         | 9            | 195         | 10           | 184         | 11             | 173         | 11           | 166         | 12                | 151         | 14           | 130         | 18           | 110         |  |  |
| VOL (ft <sup>3</sup> /ac) | 9000                        | 1100             | 10100       | 1012         | 8195        | 995          | 7724        | 982            | 7256        | 976          | 6977        | 967               | 6333        | 975          | 5432        | 1019         | 4567        |  |  |
| BA (ft <sup>2</sup> /ac)  | 245                         | 7                | 252         | 9            | 205         | 9            | 193         | 10             | 182         | 10           | 175         | 12                | 159         | 14           | 136         | 17           | 115         |  |  |
| VOL (ft <sup>3</sup> /ac) | 9500                        | 1129             | 10629       | 1028         | 8611        | 1009         | 8112        | 992            | 7616        | 983          | 7320        | 970               | 6636        | 970          | 5677        | 1005         | 4754        |  |  |
| BA (ft <sup>2</sup> /ac)  | 258                         | 7                | 265         | 8            | 215         | 9            | 203         | 9              | 190         | 10           | 183         | 11                | 166         | 13           | 142         | 16           | 119         |  |  |
| VOL (ft <sup>3</sup> /ac) | 10000                       | 1159             | 11159       | 1047         | 9030        | 1024         | 8502        | 1004           | 7978        | 993          | 7665        | 975               | 6941        | 967          | 5924        | 994          | 4942        |  |  |
| BA (ft <sup>2</sup> /ac)  | 272                         | 6                | 278         | 8            | 226         | 8            | 212         | 9              | 199         | 9            | 192         | 10                | 174         | 12           | 149         | 15           | 124         |  |  |
|                           | SITE INDEX                  | 85               |             | PRESENT AGE  |             | 50           |             | PRESENT HEIGHT |             | 85.0 FT      |             | HEIGHT IN 5 YEARS |             | 91.5 FT      |             |              |             |  |  |
| VOL (ft <sup>3</sup> /ac) | 5500                        | 819              | 6319        | 822          | 5205        | 830          | 4933        | 840            | 4665        | 849          | 4506        | 875               | 4141        | 934          | 3641        | 1026         | 3175        |  |  |
| BA (ft <sup>2</sup> /ac)  | 138                         | 8                | 147         | 11           | 121         | 11           | 115         | 12             | 109         | 12           | 105         | 14                | 97          | 16           | 85          | 19           | 75          |  |  |
| VOL (ft <sup>3</sup> /ac) | 6000                        | 827              | 6827        | 817          | 5600        | 820          | 5299        | 827            | 5002        | 834          | 4825        | 854               | 4420        | 904          | 3861        | 988          | 3337        |  |  |
| BA (ft <sup>2</sup> /ac)  | 150                         | 8                | 159         | 10           | 130         | 10           | 123         | 11             | 117         | 11           | 113         | 13                | 103         | 15           | 90          | 18           | 78          |  |  |
| VOL (ft <sup>3</sup> /ac) | 6500                        | 839              | 7339        | 816          | 5999        | 816          | 5670        | 820            | 5344        | 823          | 5150        | 839               | 4704        | 880          | 4087        | 956          | 3504        |  |  |
| BA (ft <sup>2</sup> /ac)  | 163                         | 7                | 170         | 9            | 140         | 10           | 132         | 10             | 125         | 11           | 120         | 12                | 110         | 14           | 96          | 17           | 82          |  |  |
| VOL (ft <sup>3</sup> /ac) | 7000                        | 855              | 7855        | 820          | 6402        | 816          | 6045        | 816            | 5690        | 818          | 5480        | 828               | 4993        | 861          | 4318        | 928          | 3677        |  |  |
| BA (ft <sup>2</sup> /ac)  | 175                         | 7                | 182         | 8            | 149         | 9            | 141         | 10             | 133         | 10           | 128         | 11                | 116         | 13           | 101         | 16           | 86          |  |  |
| VOL (ft <sup>3</sup> /ac) | 7500                        | 873              | 8373        | 826          | 6809        | 820          | 6423        | 816            | 6041        | 816          | 5813        | 821               | 5286        | 846          | 4553        | 905          | 3853        |  |  |
| BA (ft <sup>2</sup> /ac)  | 188                         | 6                | 194         | 8            | 158         | 8            | 149         | 9              | 141         | 9            | 135         | 10                | 123         | 12           | 106         | 15           | 90          |  |  |
| VOL (ft <sup>3</sup> /ac) | 8000                        | 894              | 8894        | 836          | 7219        | 826          | 6805        | 819            | 6394        | 817          | 6149        | 817               | 5563        | 835          | 4792        | 885          | 4034        |  |  |
| BA (ft <sup>2</sup> /ac)  | 200                         | 6                | 206         | 7            | 168         | 8            | 158         | 8              | 149         | 9            | 143         | 10                | 130         | 12           | 112         | 14           | 94          |  |  |
| VOL (ft <sup>3</sup> /ac) | 8500                        | 917              | 9417        | 847          | 7630        | 835          | 7188        | 825            | 6749        | 821          | 6487        | 816               | 5882        | 827          | 5034        | 869          | 4217        |  |  |
| BA (ft <sup>2</sup> /ac)  | 212                         | 5                | 218         | 7            | 177         | 7            | 167         | 8              | 157         | 8            | 151         | 9                 | 137         | 11           | 117         | 13           | 99          |  |  |
| VOL (ft <sup>3</sup> /ac) | 9000                        | 942              | 9942        | 861          | 8044        | 846          | 7574        | 833            | 7107        | 827          | 6828        | 817               | 6183        | 821          | 5278        | 855          | 4404        |  |  |
| BA (ft <sup>2</sup> /ac)  | 225                         | 5                | 230         | 6            | 187         | 7            | 176         | 7              | 165         | 8            | 159         | 9                 | 144         | 10           | 123         | 13           | 103         |  |  |

TABLE 10 (continued)

|                           |                             | Percent thinning |             |              |             |                        |             |              |             |                           |             |              |             |              |             |              |             |
|---------------------------|-----------------------------|------------------|-------------|--------------|-------------|------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                           | Stand<br>before<br>thinning | 0                |             | 20           |             | 25                     |             | 30           |             | 33                        |             | 40           |             | 50           |             | 60           |             |
|                           |                             | 5-yr<br>grth     | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth           | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth              | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd | 5-yr<br>grth | 5-yr<br>y'd |
| SITE INDEX 85             |                             | PRESENT AGE 50   |             |              |             | PRESENT HEIGHT 85.0 FT |             |              |             | HEIGHT IN 5 YEARS 91.5 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 9500                        | 968              | 10468       | 877          | 8459        | 858                    | 7962        | 843          | 7467        | 834                       | 7171        | 821          | 6486        | 817          | 5525        | 844          | 4593        |
| BA (ft <sup>2</sup> /ac)  | 237                         | 5                | 243         | 6            | 196         | 7                      | 185         | 7            | 173         | 7                         | 167         | 8            | 151         | 10           | 129         | 12           | 107         |
| VOL (ft <sup>3</sup> /ac) | 10000                       | 995              | 10995       | 893          | 8876        | 872                    | 8351        | 854          | 7828        | 844                       | 7516        | 826          | 6792        | 816          | 5773        | 835          | 4784        |
| BA (ft <sup>2</sup> /ac)  | 250                         | 5                | 255         | 6            | 206         | 6                      | 194         | 7            | 182         | 7                         | 175         | 8            | 158         | 9            | 134         | 12           | 112         |
| VOL (ft <sup>3</sup> /ac) | 10500                       | 1023             | 11523       | 912          | 9294        | 888                    | 8741        | 866          | 8191        | 855                       | 7862        | 833          | 7098        | 816          | 6023        | 828          | 4977        |
| BA (ft <sup>2</sup> /ac)  | 262                         | 4                | 267         | 6            | 216         | 6                      | 203         | 6            | 190         | 7                         | 183         | 7            | 165         | 9            | 140         | 11           | 116         |
| VOL (ft <sup>3</sup> /ac) | 11000                       | 1052             | 12052       | 931          | 9714        | 904                    | 9133        | 880          | 8555        | 867                       | 8209        | 841          | 7407        | 818          | 6275        | 823          | 5172        |
| BA (ft <sup>2</sup> /ac)  | 274                         | 4                | 279         | 5            | 225         | 6                      | 212         | 6            | 198         | 6                         | 191         | 7            | 172         | 9            | 146         | 11           | 121         |
| SITE INDEX 85             |                             | PRESENT AGE 55   |             |              |             | PRESENT HEIGHT 91.5 FT |             |              |             | HEIGHT IN 5 YEARS 97.7 FT |             |              |             |              |             |              |             |
| VOL (ft <sup>3</sup> /ac) | 6000                        | 636              | 6636        | 607          | 5390        | 605                    | 5083        | 604          | 4778        | 605                       | 4597        | 612          | 4177        | 636          | 3593        | 686          | 3035        |
| BA (ft <sup>2</sup> /ac)  | 140                         | 4                | 145         | 6            | 118         | 6                      | 111         | 6            | 104         | 7                         | 101         | 7            | 91          | 9            | 79          | 11           | 67          |
| VOL (ft <sup>3</sup> /ac) | 6500                        | 653              | 7153        | 614          | 5797        | 608                    | 5462        | 605          | 5129        | 604                       | 4931        | 606          | 4472        | 623          | 3831        | 666          | 3214        |
| BA (ft <sup>2</sup> /ac)  | 151                         | 4                | 156         | 5            | 126         | 5                      | 119         | 6            | 112         | 6                         | 108         | 7            | 98          | 8            | 84          | 10           | 71          |
| VOL (ft <sup>3</sup> /ac) | 7000                        | 672              | 7672        | 624          | 6206        | 615                    | 5844        | 609          | 5483        | 606                       | 5268        | 604          | 4770        | 615          | 4072        | 650          | 3398        |
| BA (ft <sup>2</sup> /ac)  | 163                         | 4                | 167         | 5            | 135         | 5                      | 127         | 5            | 120         | 6                         | 115         | 6            | 104         | 8            | 89          | 9            | 75          |
| VOL (ft <sup>3</sup> /ac) | 7500                        | 693              | 8193        | 635          | 6618        | 624                    | 6228        | 615          | 5839        | 611                       | 5607        | 605          | 5070        | 609          | 4316        | 636          | 3585        |
| BA (ft <sup>2</sup> /ac)  | 174                         | 3                | 178         | 4            | 144         | 5                      | 136         | 5            | 127         | 5                         | 122         | 6            | 111         | 7            | 94          | 9            | 79          |
| VOL (ft <sup>3</sup> /ac) | 8000                        | 716              | 8716        | 648          | 7031        | 635                    | 6614        | 623          | 6198        | 617                       | 5949        | 607          | 5373        | 605          | 4562        | 626          | 3775        |
| BA (ft <sup>2</sup> /ac)  | 186                         | 3                | 189         | 4            | 153         | 4                      | 144         | 5            | 135         | 5                         | 130         | 6            | 117         | 7            | 100         | 8            | 83          |
| VOL (ft <sup>3</sup> /ac) | 8500                        | 740              | 9240        | 663          | 7446        | 647                    | 7001        | 633          | 6558        | 626                       | 6292        | 612          | 5678        | 604          | 4811        | 618          | 3967        |
| BA (ft <sup>2</sup> /ac)  | 197                         | 3                | 201         | 4            | 162         | 4                      | 152         | 4            | 143         | 5                         | 137         | 5            | 124         | 6            | 105         | 8            | 87          |
| VOL (ft <sup>3</sup> /ac) | 9000                        | 764              | 9764        | 679          | 7862        | 661                    | 7390        | 645          | 6919        | 636                       | 6637        | 618          | 5984        | 604          | 5062        | 612          | 4161        |
| BA (ft <sup>2</sup> /ac)  | 209                         | 3                | 212         | 4            | 171         | 4                      | 161         | 4            | 151         | 4                         | 145         | 5            | 130         | 6            | 111         | 7            | 91          |
| VOL (ft <sup>3</sup> /ac) | 9500                        | 790              | 10290       | 697          | 8280        | 676                    | 7780        | 657          | 7282        | 647                       | 6984        | 626          | 6291        | 607          | 5314        | 608          | 4357        |
| BA (ft <sup>2</sup> /ac)  | 220                         | 3                | 223         | 3            | 180         | 4                      | 169         | 4            | 158         | 4                         | 152         | 5            | 137         | 6            | 116         | 7            | 95          |
| VOL (ft <sup>3</sup> /ac) | 10000                       | 817              | 10817       | 715          | 8698        | 692                    | 8171        | 671          | 7645        | 659                       | 7331        | 635          | 6600        | 610          | 5567        | 605          | 4554        |
| BA (ft <sup>2</sup> /ac)  | 232                         | 2                | 235         | 3            | 179         | 3                      | 178         | 4            | 166         | 4                         | 160         | 4            | 144         | 5            | 121         | 7            | 100         |
| VOL (ft <sup>3</sup> /ac) | 10500                       | 844              | 11344       | 734          | 9117        | 709                    | 8562        | 685          | 8010        | 672                       | 7679        | 644          | 6910        | 615          | 5822        | 604          | 4753        |
| BA (ft <sup>2</sup> /ac)  | 243                         | 2                | 246         | 3            | 198         | 3                      | 186         | 4            | 174         | 4                         | 167         | 4            | 150         | 5            | 127         | 6            | 104         |
| VOL (ft <sup>3</sup> /ac) | 11000                       | 872              | 11872       | 754          | 9536        | 726                    | 8955        | 701          | 8375        | 686                       | 8028        | 655          | 7221        | 620          | 6077        | 604          | 4953        |
| BA (ft <sup>2</sup> /ac)  | 255                         | 2                | 257         | 3            | 207         | 3                      | 195         | 3            | 182         | 4                         | 175         | 4            | 157         | 5            | 132         | 6            | 108         |
| VOL (ft <sup>3</sup> /ac) | 11500                       | 900              | 12400       | 774          | 9957        | 745                    | 9348        | 717          | 8741        | 701                       | 8378        | 667          | 7532        | 627          | 6334        | 605          | 5154        |
| BA (ft <sup>2</sup> /ac)  | 266                         | 2                | 269         | 3            | 216         | 3                      | 203         | 3            | 190         | 3                         | 182         | 4            | 164         | 5            | 138         | 6            | 113         |
| VOL (ft <sup>3</sup> /ac) | 12000                       | 929              | 12929       | 795          | 10378       | 763                    | 9742        | 733          | 9108        | 716                       | 8728        | 679          | 7844        | 634          | 6591        | 607          | 5356        |
| BA (ft <sup>2</sup> /ac)  | 278                         | 2                | 280         | 3            | 225         | 3                      | 212         | 3            | 198         | 3                         | 190         | 4            | 171         | 4            | 144         | 6            | 117         |

TABLE 10 (continued)

|                           |       | Percent thinning            |       |                |       |      |       |                        |      |      |      |                            |      |      |      |      |      |      |      |
|---------------------------|-------|-----------------------------|-------|----------------|-------|------|-------|------------------------|------|------|------|----------------------------|------|------|------|------|------|------|------|
|                           |       | Stand<br>before<br>thinning |       | 0              |       | 20   |       | 25                     |      | 30   |      | 33                         |      | 40   |      | 50   |      | 60   |      |
|                           |       |                             |       | 5-yr           | 5-yr  | 5-yr | 5-yr  | 5-yr                   | 5-yr | 5-yr | 5-yr | 5-yr                       | 5-yr | 5-yr | 5-yr | 5-yr | 5-yr | 5-yr | 5-yr |
|                           |       |                             |       | grth           | y'd   | grth | y'd   | grth                   | y'd  | grth | y'd  | grth                       | y'd  | grth | y'd  | grth | y'd  | grth | y'd  |
|                           |       | SITE INDEX 85               |       | PRESENT AGE 60 |       |      |       | PRESENT HEIGHT 97.7 FT |      |      |      | HEIGHT IN 5 YEARS 103.5 FT |      |      |      |      |      |      |      |
| VOL (ft <sup>3</sup> /ac) | 8500  | 417                         | 6917  | 345            | 5528  | 327  | 5181  | 310                    | 4835 | 300  | 4627 | 277                        | 4143 | 247  | 3454 | 220  | 2769 |      |      |
| BA (ft <sup>2</sup> /ac)  | 142   | 0                           | 142   | 0              | 114   | 0    | 107   | 0                      | 100  | 0    | 95   | 0                          | 86   | 1    | 72   | 1    | 58   |      |      |
| VOL (ft <sup>3</sup> /ac) | 7000  | 445                         | 7445  | 366            | 5949  | 347  | 5576  | 329                    | 5203 | 317  | 4979 | 292                        | 4458 | 258  | 3715 | 227  | 2976 |      |      |
| BA (ft <sup>2</sup> /ac)  | 152   | 0                           | 153   | 0              | 122   | 0    | 115   | 0                      | 107  | 0    | 103  | 0                          | 92   | 0    | 77   | 1    | 62   |      |      |
| VOL (ft <sup>3</sup> /ac) | 7500  | 473                         | 7973  | 388            | 6371  | 368  | 5971  | 347                    | 5571 | 335  | 5332 | 307                        | 4773 | 270  | 3977 | 236  | 3184 |      |      |
| BA (ft <sup>2</sup> /ac)  | 163   | 0                           | 164   | 0              | 131   | 0    | 123   | 0                      | 115  | 0    | 110  | 0                          | 98   | 0    | 82   | 1    | 66   |      |      |
| VOL (ft <sup>3</sup> /ac) | 8000  | 501                         | 8501  | 410            | 6793  | 388  | 6367  | 366                    | 5940 | 353  | 5635 | 323                        | 5089 | 282  | 4239 | 244  | 3393 |      |      |
| BA (ft <sup>2</sup> /ac)  | 174   | 0                           | 174   | 0              | 140   | 0    | 131   | 0                      | 122  | 0    | 117  | 0                          | 105  | 0    | 88   | 1    | 70   |      |      |
| VOL (ft <sup>3</sup> /ac) | 8500  | 530                         | 9030  | 433            | 7215  | 409  | 6762  | 385                    | 6309 | 371  | 6038 | 339                        | 5405 | 294  | 4501 | 253  | 3601 |      |      |
| BA (ft <sup>2</sup> /ac)  | 185   | 0                           | 185   | 0              | 148   | 0    | 139   | 0                      | 130  | 0    | 124  | 0                          | 111  | 0    | 93   | 1    | 75   |      |      |
| VOL (ft <sup>3</sup> /ac) | 9000  | 558                         | 9558  | 455            | 7638  | 430  | 7158  | 404                    | 6679 | 389  | 6391 | 355                        | 5720 | 307  | 4764 | 262  | 3811 |      |      |
| BA (ft <sup>2</sup> /ac)  | 196   | 0                           | 196   | 0              | 157   | 0    | 147   | 0                      | 137  | 0    | 131  | 0                          | 118  | 0    | 98   | 0    | 79   |      |      |
| VOL (ft <sup>3</sup> /ac) | 9500  | 587                         | 10087 | 478            | 8060  | 451  | 7554  | 424                    | 7048 | 408  | 6744 | 371                        | 6037 | 320  | 5027 | 273  | 4020 |      |      |
| BA (ft <sup>2</sup> /ac)  | 206   | 0                           | 207   | 0              | 165   | 0    | 155   | 0                      | 145  | 0    | 139  | 0                          | 124  | 0    | 104  | 0    | 83   |      |      |
| VOL (ft <sup>3</sup> /ac) | 10000 | * 616                       | 10616 | 500            | 8483  | 472  | 7950  | 443                    | 7418 | 426  | 7098 | 387                        | 6353 | 333  | 5290 | 281  | 4230 |      |      |
| BA (ft <sup>2</sup> /ac)  | 217   | 0                           | 217   | 0              | 174   | 0    | 163   | 0                      | 152  | 0    | 146  | 0                          | 131  | 0    | 109  | 0    | 87   |      |      |
| VOL (ft <sup>3</sup> /ac) | 10500 | 645                         | 11145 | 523            | 8906  | 493  | 8346  | 463                    | 7767 | 445  | 7452 | 404                        | 6670 | 346  | 5553 | 291  | 4440 |      |      |
| BA (ft <sup>2</sup> /ac)  | 228   | 0                           | 228   | 0              | 183   | 0    | 171   | 0                      | 160  | 0    | 153  | 0                          | 137  | 0    | 114  | 0    | 92   |      |      |
| VOL (ft <sup>3</sup> /ac) | 11000 | 674                         | 11674 | 546            | 9329  | 514  | 8743  | 483                    | 8157 | 464  | 7806 | 420                        | 6986 | 360  | 5817 | 301  | 4650 |      |      |
| BA (ft <sup>2</sup> /ac)  | 239   | 0                           | 239   | 0              | 191   | 0    | 179   | 0                      | 167  | 0    | 160  | 0                          | 144  | 0    | 120  | 0    | 96   |      |      |
| VOL (ft <sup>3</sup> /ac) | 11500 | 703                         | 12203 | 569            | 9752  | 536  | 9139  | 503                    | 8527 | 483  | 8160 | 437                        | 7303 | 373  | 6080 | 312  | 4860 |      |      |
| BA (ft <sup>2</sup> /ac)  | 249   | 0                           | 250   | 0              | 200   | 0    | 187   | 0                      | 175  | 0    | 167  | 0                          | 150  | 0    | 125  | 0    | 100  |      |      |
| VOL (ft <sup>3</sup> /ac) | 12000 | 732                         | 12732 | 592            | 10175 | 557  | 9536  | 523                    | 8897 | 502  | 8514 | 454                        | 7620 | 387  | 7344 | 322  | 5071 |      |      |
| BA (ft <sup>2</sup> /ac)  | 260   | 0                           | 261   | 0              | 208   | 0    | 195   | 0                      | 182  | 0    | 175  | 0                          | 156  | 0    | 130  | 0    | 105  |      |      |
| VOL (ft <sup>3</sup> /ac) | 12500 | 761                         | 13261 | 615            | 10598 | 579  | 9932  | 543                    | 9267 | 521  | 8868 | 471                        | 7937 | 401  | 6608 | 332  | 5281 |      |      |
| BA (ft <sup>2</sup> /ac)  | 271   | 0                           | 271   | 0              | 217   | 0    | 203   | 0                      | 190  | 0    | 182  | 0                          | 163  | 0    | 136  | 0    | 109  |      |      |
| VOL (ft <sup>3</sup> /ac) | 13000 | 790                         | 13790 | 638            | 11021 | 600  | 10329 | 563                    | 9637 | 540  | 9222 | 488                        | 8254 | 414  | 6872 | 343  | 5492 |      |      |
| BA (ft <sup>2</sup> /ac)  | 282   | 0                           | 282   | 0              | 226   | 0    | 212   | 0                      | 197  | 0    | 189  | 0                          | 169  | 0    | 141  | 0    | 113  |      |      |

TABLE 11 Individual tree red pine standard volume table

| Dbh.ob<br>(in) | Gross total volume (ft <sup>3</sup> ) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | Total height (ft)                     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|                | 15                                    | 20    | 25    | 30    | 35    | 40    | 45    | 50    | 55    | 60    | 65    | 70    | 75    | 80    | 85    |
| 2              | 0.19                                  | 0.22  | 0.26  | 0.29  | 0.32  | 0.36  | 0.39  | 0.43  | 0.46  | 0.49  | 0.53  | 0.56  | 0.60  | 0.63  | 0.66  |
| 3              | 0.38                                  | 0.50  | 0.62  | 0.74  | 0.86  | 0.98  | 1.10  | 1.22  | 1.34  | 1.46  | 1.58  | 1.70  | 1.82  | 1.94  | 2.06  |
| 4              | 0.62                                  | 0.85  | 1.08  | 1.31  | 1.55  | 1.78  | 2.01  | 2.24  | 2.47  | 2.70  | 2.93  | 3.16  | 3.39  | 3.62  | 3.85  |
| 5              | 0.91                                  | 1.28  | 1.64  | 2.01  | 2.37  | 2.74  | 3.10  | 3.47  | 3.84  | 4.20  | 4.57  | 4.93  | 5.30  | 5.66  | 6.03  |
| 6              | 1.24                                  | 1.77  | 2.29  | 2.82  | 3.34  | 3.87  | 4.39  | 4.92  | 5.44  | 5.97  | 6.49  | 7.02  | 7.54  | 8.07  | 8.59  |
| 7              | 1.63                                  | 2.34  | 3.04  | 3.75  | 4.46  | 5.17  | 5.88  | 6.59  | 7.29  | 8.00  | 8.71  | 9.42  | 10.13 | 10.84 | 11.55 |
| 8              | 2.06                                  | 2.97  | 3.89  | 4.80  | 5.72  | 6.64  | 7.55  | 8.47  | 9.39  | 10.30 | 11.22 | 12.14 | 13.05 | 13.97 | 14.88 |
| 9              | 2.53                                  | 3.68  | 4.83  | 5.98  | 7.13  | 8.27  | 9.42  | 10.57 | 11.72 | 12.87 | 14.02 | 15.17 | 16.31 | 17.46 | 18.61 |
| 10             | 3.05                                  | 4.46  | 5.86  | 7.27  | 8.67  | 10.08 | 11.48 | 12.89 | 14.30 | 15.70 | 17.11 | 18.51 | 19.92 | 21.32 | 22.73 |
| 11             | 3.62                                  | 5.31  | 7.00  | 8.68  | 10.37 | 12.05 | 13.74 | 15.43 | 17.11 | 18.80 | 20.48 | 22.17 | 23.86 | 25.54 | 27.23 |
| 12             | 4.24                                  | 6.23  | 8.22  | 10.21 | 12.21 | 14.20 | 16.19 | 18.18 | 20.17 | 22.16 | 24.15 | 26.15 | 28.14 | 30.13 | 32.12 |
| 13             | 4.90                                  | 7.22  | 9.55  | 11.87 | 14.19 | 16.51 | 18.83 | 21.15 | 23.47 | 25.79 | 28.11 | 30.43 | 32.75 | 35.08 | 37.40 |
| 14             | 5.61                                  | 8.29  | 10.96 | 13.64 | 16.31 | 18.99 | 21.66 | 24.34 | 27.01 | 29.69 | 32.36 | 35.04 | 37.71 | 40.39 | 43.06 |
| 15             | 6.37                                  | 9.43  | 12.48 | 15.53 | 18.58 | 21.64 | 24.69 | 27.74 | 30.80 | 33.85 | 36.90 | 39.96 | 43.01 | 46.06 | 49.12 |
| 16             | 7.18                                  | 10.63 | 14.09 | 17.54 | 21.00 | 24.46 | 27.91 | 31.37 | 34.82 | 38.28 | 41.73 | 45.19 | 48.64 | 52.10 | 55.56 |

TABLE 12 Site index for red pine plantations

| Age<br>(years) | Stand dominant height (ft) at age 50 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------|--------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                | Present height (ft)                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                | 10                                   | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 |
| 20             | 46                                   | 53 | 60 | 67 | 73 | 80 | 87 | 94 |    |    |    |    |    |    |    |    |    |
| 22             | 42                                   | 49 | 55 | 62 | 68 | 75 | 82 | 88 | 95 |    |    |    |    |    |    |    |    |
| 24             | 38                                   | 45 | 51 | 57 | 64 | 70 | 77 | 83 | 89 | 96 |    |    |    |    |    |    |    |
| 26             | 35                                   | 41 | 47 | 53 | 60 | 66 | 72 | 78 | 84 | 91 | 97 |    |    |    |    |    |    |
| 28             | 32                                   | 38 | 44 | 50 | 56 | 62 | 68 | 74 | 80 | 86 | 92 | 98 |    |    |    |    |    |
| 30             |                                      | 35 | 41 | 47 | 52 | 58 | 64 | 70 | 76 | 82 | 88 | 93 | 99 |    |    |    |    |
| 32             |                                      | 32 | 38 | 44 | 49 | 55 | 61 | 66 | 72 | 78 | 84 | 89 | 95 |    |    |    |    |
| 34             |                                      |    | 35 | 41 | 46 | 52 | 58 | 63 | 69 | 74 | 80 | 86 | 91 | 97 |    |    |    |
| 36             |                                      |    | 33 | 38 | 44 | 49 | 55 | 60 | 66 | 71 | 77 | 82 | 88 | 93 | 99 |    |    |
| 38             |                                      |    | 30 | 36 | 41 | 47 | 52 | 57 | 63 | 68 | 74 | 79 | 84 | 90 | 95 |    |    |
| 40             |                                      |    |    | 34 | 39 | 44 | 49 | 55 | 60 | 65 | 71 | 76 | 81 | 87 | 92 | 97 |    |
| 42             |                                      |    |    | 31 | 37 | 42 | 47 | 52 | 58 | 63 | 68 | 73 | 79 | 84 | 89 | 94 |    |
| 44             |                                      |    |    |    | 35 | 40 | 45 | 50 | 55 | 61 | 66 | 71 | 76 | 81 | 87 | 92 | 97 |
| 46             |                                      |    |    |    | 33 | 38 | 43 | 48 | 53 | 59 | 64 | 69 | 74 | 79 | 84 | 89 | 94 |
| 48             |                                      |    |    |    | 31 | 36 | 41 | 46 | 52 | 57 | 62 | 67 | 72 | 77 | 82 | 87 | 92 |
| 50             |                                      |    |    |    |    | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 |
| 52             |                                      |    |    |    |    | 33 | 38 | 43 | 48 | 53 | 58 | 63 | 68 | 73 | 78 | 83 | 88 |
| 54             |                                      |    |    |    |    | 32 | 37 | 42 | 47 | 52 | 57 | 61 | 66 | 71 | 76 | 81 | 86 |

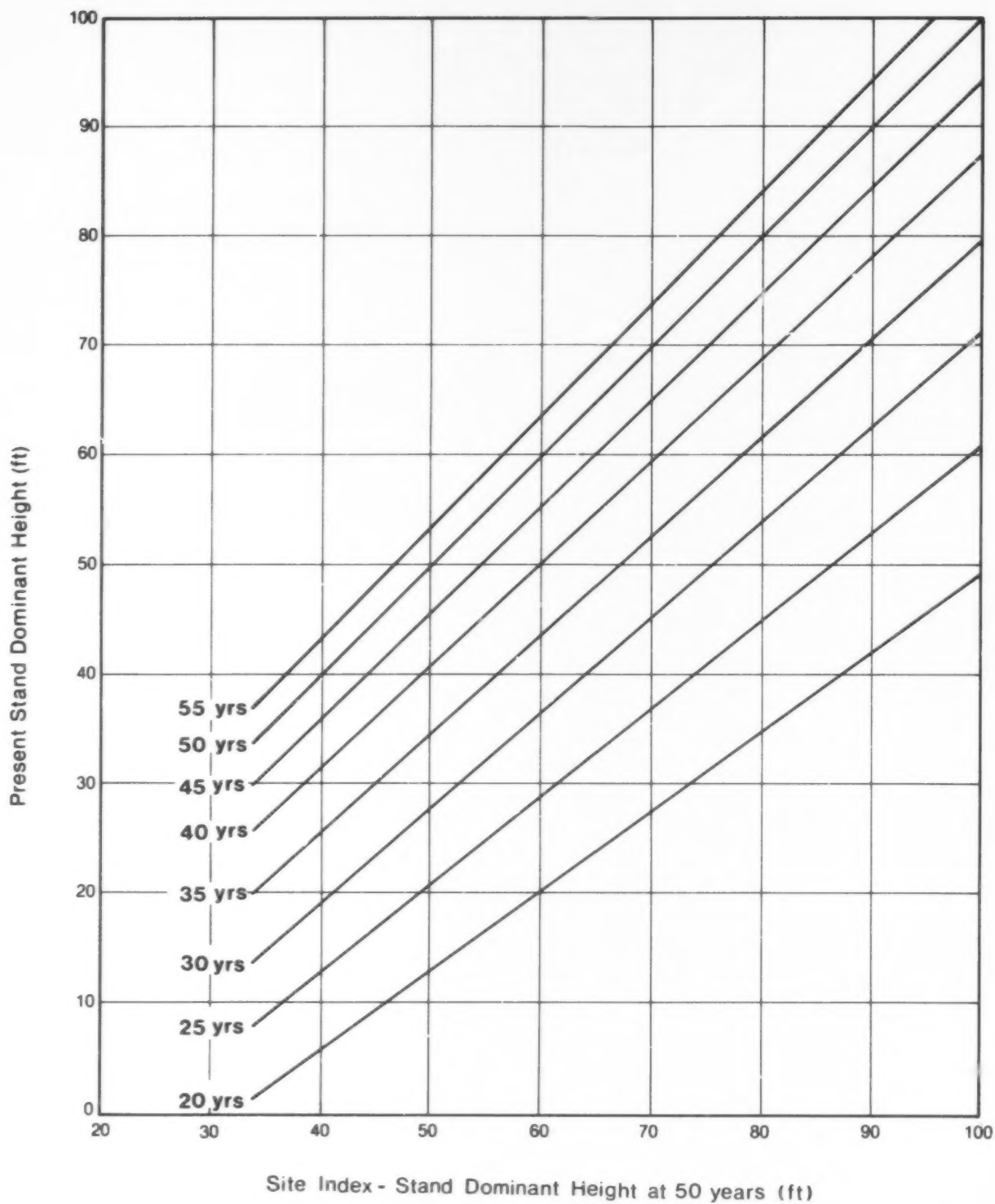


Figure 3 Site index for red pine plantations.